Merry
Christmas

GLOUCESTER COUNTY AMATEUR RADIO CLUB NEW JERSEY

CrossTalk

December 2024 | 65 Years Of Service To Amateur Radio & Our Community | Issue 65 : 12

A

2024 Club Officers

President :	**Jonathan Pearce, WB2MNF**
Vice President :	**Ronald Block, NR2B**
Treasurer :	**John O'Connell, K2QA**
Recording Secretary :	**John Zaruba Jr, K2ZA**
Corresponding Secretary :	**Michael Resnick, N2WOQ**

Trustees - 4 Year Term

Carl Wittig, N2CRW	**(2021-2024)**
Charles Lanard, KD2EIB	**(2022-2025)**
Sheldon Parker, K2MEN	**(2023-2026)**
Len Rust, W2LJR	**(2024-2027)**

Directors - 3 Year Term

Jeffrey Garth, WB2ZBN	**(2022-2024)**	**James Wright, N2GXJ**	**(2023-2025)**
Frank Romeo, N3PUU	**(2022-2024)**	**Al Arrison, KB2AYU**	**(2024-2026)**
Chris Prioli, AD2CS	**(2023-2025)**	**Bill Price, NJ2S**	**(2024-2026)**

General Membership Meeting
Wednesday, December 4, 2024 @ 1900 Hours
In-Person & ZOOM : 943 0211 9674, 843147

2024 GCARC Holiday Dinner
Friday, December 6, 2024 @ 1900 Hours
Mantua Masonic Lodge

Tech Saturday Forum
Saturday, December 7, 2024 @ 0900 Hours
W2MMD Clubhouse

GCARC TechNet ZOOM Forum
Every Monday @ 1930 Hours
ZOOM Meeting ID : 933 9943 3123, 800835

License Testing Session
Thursday, December 12, 2024 @ 1900 Hours
W2MMD Clubhouse

Board of Directors Meeting
Wednesday, December 18, 2024 @ 1900 Hours
W2MMD Clubhouse

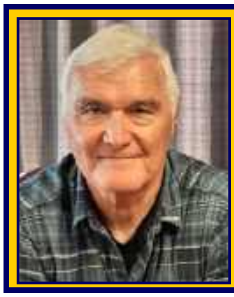
Tuesday AfterNoon 2M Net @ 1200 Hours
Thursday Night 2M Net @ 2000 Hours

Tuesday & Thursday 10 Meter Net @ 1930 Hours
28.465 MHz or 28.475 MHz

Monday & Thursday Night 40M Net @ 1930 Hours
7.225 MHz (+/- 5 or 10 kHz)

Inside This Issue…

President's Letter....................................... Page 3
Welcome New Members .... Page 6
December 4th General Membership Meeting Page 7
December 7th Tech Saturday Forum .... Page 9
Monthly VE Session Summary................. Page 12
DA's & DIT's.. Page 13
Education Connection.............................. Page 14
GCARC EME Dish Antenna .... Page 17
At The Repair Bench................................ Page 19
Element 4 Question Quiz .... Page 26
Super Fox Update : RC7.......................... Page 28
Skywarn Recognition Day........................ Page 31
Jersey String Band Update........................ Page 32
Antenna Rotator Controller Build Part 2. Page 33
Ham CrossWord Puzzle .... Page 39
Fox Hunt 31 : Family Fun .... Page 40
W2MMD Clubhouse Test/Repair Bench.. Page 42
General Membership Meeting Minutes.... Page 43
Electronic Tool Tip #11............................ Page 46
Board of Directors Meeting Minutes........ Page 47
DXCC Honor Roll..................................... Page 50
December 2024 Birthdays .... Page 51
Club Member Contest Scores.................... Page 52
NG3K Announced DX Operations .... Page 53
December 2024 Contest Calendar .... Page 56
2024 Club Committees.............................. Page 58
Last Page Calendar .... Page 59



President's Letter
Jon Pearce, WB2MNF

December 2024

November was a busy month for GCARC members with several new initiatives bearing fruit. The Woodruff School STEM club launched two balloons and got approval to continue for another semester, the EME station was hastily assembled and yet made two moonbounce contacts and several members were able to copy the SSTV images sent by the International Space Station with their HTs using software on their mobile phones.

EME Contacts (See Page 17)

The 2.4 meter EME dish for 1296 MHz finally arrived several days before the EME contest beginning on Friday night November 15, and the EME team **(Al Arrison KB2AYU, Frank Romeo N3PUU** and **John O'Connell K2QA)** immediately changed modes from tower builders to microwave system designers. The dish needed a mounting plate and stand-offs from the tripod that we had purchased so Frank fabricated the plate and got the dish mounted. Meanwhile Al put together the RF hardware needed to connect the antenna to the output of the 1296 amplifier, which with the accompanying transverter were located outside with the dish. This allowed normal RG-8X coax to be run from the Flex 6400 in the VHF room on the 10 meter IF frequency to the transverter input without incurring the transmission line loss that would occur if the amp was left in the VHF room and fed through a long cable to the dish. This involved relay switching and several dummy loads to close the open TX and RX inputs and outputs while the transverter was switching modes. Meanwhile, John built up the outdoor structure needed to hold the transverters and provide support for the dish. Fortunately good weather prevailed, as rain would have cause significant complications to the entire setup.

I was away for the contest and don't know the details of the operation but the EME guys will describe them at the December 4, 2024 General Membership Meeting. At least two successful contacts were made - one with OK1DFC, an EME superstation in Europe and another with K0PRT, who apparently is using a 60 foot dish. The team reported some issues with high RX noise levels and some high reflected power when running more than 100 watts, so there are still some issues remaining to get worked out. The portable dish allows playing around with various dish locations and operating practices with an eventual plan of permanently mounting a larger dish at the Clubhouse.

Woodruff School Balloon Activities

STEM club activities continued in November with more orientation on balloon technology. We launched one balloon with the kids using an SBS balloon and ZachTek tracker that was not successful, which prompted us to review the design and alter it to add additional solar panels. At that point we planned another launch later in the month when there was a greater opportunity to create visibility beyond the STEM club students.

The school had parent-teacher conferences on Wednesday, November 14 and students were dismissed at noon so **Angela Metzger KE2DRJ** decided it would a good opportunity to show off the STEM club to the entire school with a balloon launch. The earlier time would with a longer period of sunlight would give a longer opportunity to receive telemetry from a solar-powered balloon, although we later decided to switch to battery power to provide consistent telemetry early even through weak sunlight.

President's Letter - Continued on page 4

President's Letter - Continued from page 3

Angela is writing a more detailed article on this event, but a short summary is that it was quite successful with many students, faculty, administrators and parents outside watching the launch. Students were divided into groups with some assigned to plot out the expected path of the balloon using **windy.com** and other sites, some working with the inflation and weight calculations of the balloon and some in a "public relations" role describing the process to onlookers. Once the balloon was inflated we carried it outside to a location in the fields that would give the longest run before possibly hitting articles. **Mike Thompson KG4JYA** was inside monitoring the 20 meter telemetry signal and waiting for a successful decode before giving the OK to release. Once that happened we waited for the wind to die down and then one of the students released the monofilament line that freed the balloon, which fortunately rose avoiding obstacles and disappeared into the sky.

We got initial telemetry reports for about an hour at altitudes rising from 1000 feet when the telemetry stopped, which we attributed to the battery freezing. At that point we assumed that the balloon had dropped to the ground but the following morning I was startled to see telemetry appearing around 9 AM with the balloon at about 8000 feet over Easton PA! We tracked it until late afternoon - it had risen to about 17,000 feet and then stopped transmitting for about 4 hours (again probably because of battery freezing) when it resumed again at about 4000 feet and was slowly descending. It finally appeared to hit the ocean about 4 PM on Friday. The STEM students were able to track the balloon using their Chromebook computers, hopefully not interfering with their normal school activities.

The following week Angela had several of the STEM students make a presentation to the school board extolling the virtues of the STEM club and asking for approval to continue it through the end of the year, which was granted. We haven't yet decided on the curriculum for that period but we're confident of having about a dozen highly-interested students involved in this activity.

Pictures From Space!

The ISS was once again transmitting slow-scan TV pictures, this time from the American module, on the 40th Anniversary of Amateur Radio in space. On a high elevation pass the signals are strong and can be picked up with an HT. Software is available on most phone platforms to decode SSTV signals when the HT's speaker is held up to the microphone of the phone and several members were actually able to decode those signals. Notably, **Angela KE2DRJ** was able to copy a partial image that way and shared it with the STEM kids who were apparently quite impressed. **Mike KG4JYA**, **Glen KE2BUO** and **Court KD2SPJ** were also successful. The Clubhouse SatNOGS station, once we got it configured correctly, copied several nice pictures with its 22 element Yagi, which we'll show at the December 4, 2024 General Membership Meeting.

Holiday Dinner Planning

Registrations are now closed for the GCARC Holiday Dinner on Friday, December 6, 2024. **Kathy Romeo** and her team are working on a delicious meal and we're all looking forward to getting together for a great evening.

73 de Jon WB2MNF

GCARC 2024

Holiday Dinner

FRIDAY, DECEMBER 6
7 - 9 PM

Mantua Masonic Lodge
45 Mantua Blvd, Mantua Township

On the Menu

- Caesar Salad
- Baked Ziti
- Sausage and Peppers
- Assorted Veggies
- Variety of Desserts
- Fresh Rolls
- Meatballs
- Ham
- Sides

RSVP BY NOVEMBER 23RD

$32.00 PER PERSON

CHECK - PO BOX 370 PITMAN, NJ 08071

CASH - ACCEPTED AT MEETINGS OR CLUBHOUSE SATURDAYS

PAYPAL ($34.00 INCLUDES PAYPAL/CREDIT CARD FEES) - W2MMD SITE

All are welcome!

© 2024 ALL RIGHTS RESERVED, W2MMD

Graphic Created By Jonathan Romeo

Welcome New Club Members :

Robert Ciotti Jr, KC3ZFT, a General Class from Havertown, PA.
Peter B Elias (son), KE2EGL, a Technician Class from Newport, NJ.
Peter L Elias Jr (father), KE2EGU, a Technician Class from Vineland, NJ.
Leonard Ford, KE2DPS, a Technician Class from Newport, NJ.
David Schwechtje Jr, Associate Member from Westville, NJ.

We are glad to have you as members of the Club and hope to see you regularly at Club meetings, events, and activities. Hope to see you at the December 4th General Membership Meeting, either in-person or on ZOOM, the December 7th Tech Saturday Forum, the Holiday Dinner on December 6th, and the Monday Night GCARC TechNet ZOOM Forum.

We also hope to ***"SEE"*** you on the ***"AIR"*** on the following nets :

- Sunday Night Skywarn 2 Meter Net @ 1930 Hours.
- Sunday Night ARES 2 Meter Net @ 2000 Hours.
- Tuesday AfterNoon 2 Meter Net @ 1200 Hours.
- Tuesday & Thursday Night 10 Meter Rag Chew Nets @ 1930 Hours on 28.465 or 28.475 MHz.
- Monday & Thursday Night 40 Meter Nets on 7.225 MHz (+/- 5 or 10 kHz) @ 1930 Hours.
- Thursday Night Rag Chew 2 Meter Net @ 2000 Hours.

All 2 Meter nets are on our 147.180 MHz (PL 131.8) repeater or on EchoLink W2MMD-R.

> ***"Ask not what your Club can do for you,***
> ***Ask what you can do for your Club"***
> ***- KA2OSV***

ADIF Logs Wanted When Operating As W2MMD @ The Clubhouse

By Jim Wright, N2GXJ - Contact me via e-mail on Club Roster List

It is a common courtesy in ham radio to be able to QSL 2-way contacts made with other hams. We're pretty good about doing this for our field day contacts made each year, but are falling behind in this for contacts we make from the Clubhouse as W2MMD.

So here is the ask :

If you operate from the Clubhouse as W2MMD (e.g. on HF, UHF/VHF, or on Satellite, at Tech Saturday, or during contests or other), please email me the electronic log entries in ADIF format from the logger program you used for those contacts?

That way, just like I do following field day each year, I can get them uploaded to LOTW and to eQSL to offer the courtesy of an electronic QSL to those who make contact with us as W2MMD here in NJ.

Thank you

General Membership Meeting

Wednesday, December 4, 2024 @ 1900 Hours

Pfeiffer Community Center

Simulcast Live Via ZOOM : Meeting ID : 943 0211 9674; Passcode : 843147
Join ZOOM Meeting Link : https://bit.ly/44P4HCU

Go to : www.w2mmd.org to download the ZOOM log-on instructions PDF

Our Future In Amateur Radio

Bob Famiglio, K3RF, our ARRL Atlantic Division Director, will be the speaker for our December 4th Club meeting. The Atlantic Division of our League is comprised of 7 sections in 5 states and Washington, DC including our Southern New Jersey section. Having been elected as the League Eastern Pennsylvania Section Manager twice, Bob was later elected Vice Director of Atlantic Division in 2014. He served in that position until stepping up to acting director upon the early retirement of his friend **Tom Abernathy W3TOM** in 2023. In 2024 Bob began his first full year as Director, having run for that position for a three-year term.

A ham and an ARRL member since 1967, Bob holds many roles with our League. He is chairman of the ARRL ARES subcommittee, Chairman of the Legal Defense Committee, and is a member of the Emergency Communications and Field Services committee. More of Bob's background may be seen on his **QRZ page - www.QRZ.com/db/K3RF**.

Bob's topic for our meeting will be ***"Our Future In Amateur Radio"***. This will include an outlook on future issues we face as radio amateurs and what should be done about them, as well as current issues and concerns arising in the operation of our League. Bob always invites participation from the audience. Bring your questions and concerns to the meeting. As your ARRL representative, Bob will provide answers from his view in the ARRL boardroom. See you there!

NTS Resources

The National Traffic System® (NTS) is a network of Amateur Radio operators who move information during disasters and other emergencies. General messages offering well wishes also move through the NTS to help test the system and to help Amateur Radio operators build traffic handling skills. While the NTS is primarily set up to serve the United States and Canada, it is possible to move traffic internationally through the NTS through various local, regional, area, and international network connections.

- **NTS 2.0 : https://nts2.arrl.org**
- **NTS Manual : https://www.arrl.org/nts-manual**
- **NTS Methods and Practices Guidelines Table of Contents : https://www.arrl.org/table-of-contents-nts-methods-and-practices-guidelines**
- **Handling Instructions : https://nts2.arrl.org/hx-handling-instructions**
- **Numbered Texts : https://nts2.arrl.org/numbered-texts**
- **Form Encoding Rules for Form : https://nts2.arrl.org/form-encoding-rules-for-forms**

Here is the final slate of candidates for the 2025 Club Officer Elections. Voting will take place at the December 4th General Membership Meeting.

- **President : Jonathan Pearce, WB2MNF**
- **Vice President : Ron Block, NR2B**
- **Treasurer : John O'Connell, K2QA**
- **Recording Secretary : John Zaruba Jr, K2ZA**
- **Corresponding Secretary : Michael Resnick, N2WOQ**

Vote For 2 :

- **Director : Jeffrey Garth, WB2ZBN**
- **Director : Frank Romeo, N3PUU**

Vote For 1 :

- **Trustee : Earl Moore, KC2NCH**

Gloucester County Amateur Radio Club
YouTube Channel
https://www.youtube.com/@W2MMD

Tuesday & Thursday Nights 10M Rag Chew Net @ 1930 Hours
28.465 MHz or 28.475 MHz

GCARC TechNet ZOOM Forum

GCARC TechNet ZOOM Forum is scheduled to be available every Monday Night until December 30, 2024.

There will not necessarily be a topic scheduled every Monday Night, but the opportunity is available to schedule succeeding topics of interest on consecutive Monday Nights.

Every Monday @ 1930 Hours

Date &Forum Topic : See e-mail and website for more information

Go to : https://gloucestercountyarc.weebly.com/gcarc-technet.html
for TechNet Information Resources and ZOOM Instructions

Meeting ID : 933 9943 3123 ; Passcode : 800835
Join ZOOM Meeting Link : https://bit.ly/3K8bWwj

Tech Saturday Forum

December 7, 2024 @ 0900 Hours

W2MMD Clubhouse

Forum Topic :
Open House Session For General Discussions And Assistance

Q & A Session About All Things Ham Radio and Socializing!

The HF Station Will Be Available For Local Operation!

Tech Saturday sessions are held at the W2MMD Clubhouse on the first Saturday of the month following the Wednesday Night General Membership Meeting and are designed to be hands-on collaborative events focused on using the Clubhouse resources to demonstrate various aspects of Amateur Radio and related technical areas. Previous sessions have covered USB software-defined radios, Raspberry Pi and Arduino devices, satellite operations and other similar topics.

We would like to invite all of our new members as well as our veteran members to our Tech Saturday Forums to help answer any questions and discuss any and all issues the new members have come across as they progress through the ***Amateur Radio Experience.***

The Discussion Theme is a QSO starting point - a way to initiate a conversation. All Tech Saturdays are an open QSO of all subjects of Amateur Radio interest. All questions are welcome as well as a venue for hams to show off their latest ham radio projects or gadgets. Have a problem programming that HT, we can help! Not sure what radio or antenna to buy, we can help!

All Club Members who would like Clubhouse access to use its radio equipment would have to have some brief “Elmering” on the Clubhouse rules, such as using the alarm system, the A/C and heaters, the antenna system, and the radio equipment. The Club’s HF station is reserved for local use on Tech Saturday.

All are welcome - Hams and Non-Hams - Club Members and Non-Club Members.

Membership Badges Ready For Pick-up.
They can be picked up at the W2MMD Clubhouse or
at the monthly General Membership Meetings

Dave Danichkin, KD2UXC
Jim Foster, W3JNF
Deirdre Hebert, AD2GQ
Ronald Jackson, KE2CJB
Bob Jensen, KC3WWL
Ben Johnson, NE2R
Calvin Keller, N2YMS
John McGonigle, KC3ZJX
Jack Snyder, AI2D

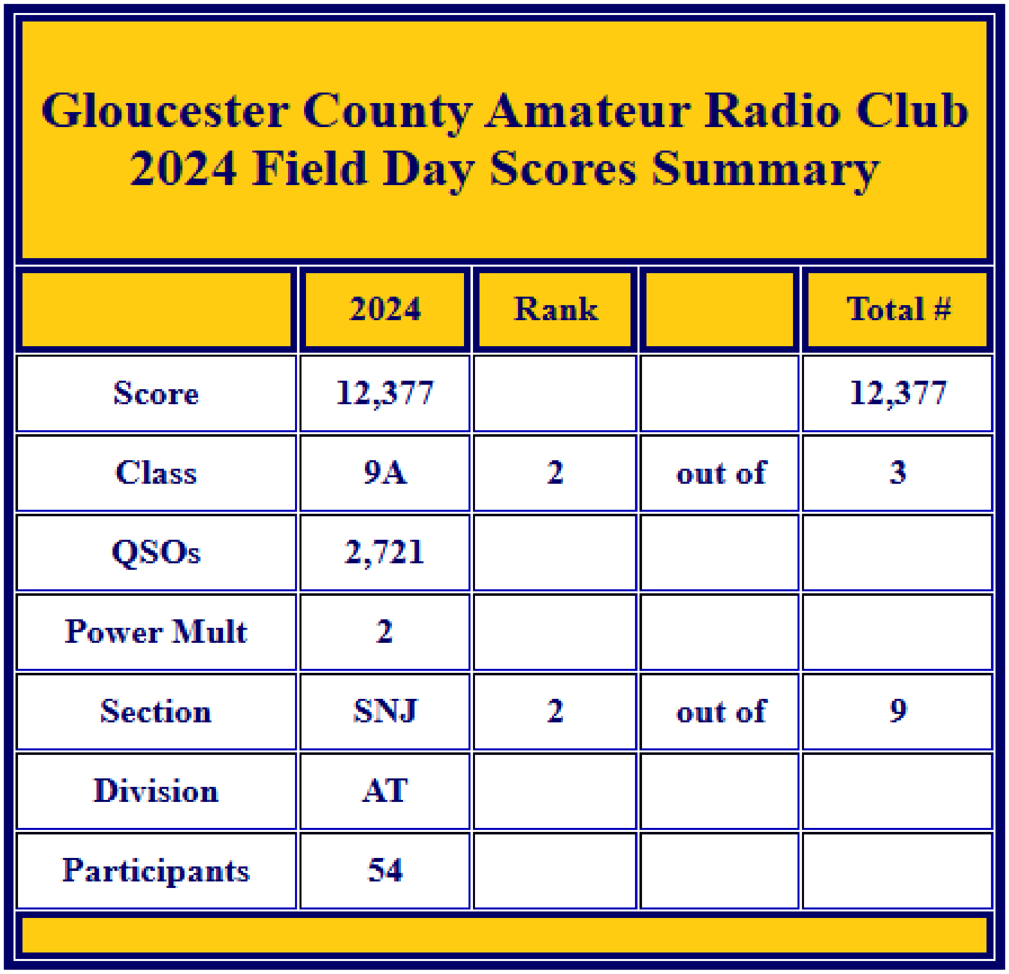
Gloucester County Amateur Radio Club
2024 Field Day Scores Breakdown

Callsign	QSOs	Class	Power	Participants	Total
W2MMD	2,123	9A	2	50	9,791
WB2GUK	294	1D	2	1	1,326
WA2IBZ	129	1D	2	1	566
AC2PT	153	1E	2	1	556
WB2QEF	22	1E	2	1	138
Totals	2,721	9A, (2)1D, (2)1E	2	54	12,377

Information Resource : https://field-day.arrl.org/fdresults.php

Southern New Jersey Section Club Station 2024 ARRL Field Day Results

Club	Callsign	Aggregate Score	Entries	Class	QSOs	Power	Participants
South Jersey RA	K2AA + W2EA	21,494	3	6A, (2) 1D	5,620	2	71
Gloucester County ARC	W2MMD + W2KBF	12,377	5	9A, (2)1D, (2)1E	2,721	2	54
Old Barney ARC	N2OB + N2CW	5,626	3	3A, 1D, 2D	1,185	2	17
David Sarnoff RC	N2RE	5,186	5	5A, 1B1B, (2)1D, 1E	761	2, 5	35
Southern Counties ARA	K2BR	4,860	3	3F, (2)1D	1,119	2	31
Burlington County RC	K2TD	4,544	2	3A, 2E	323	2, 5	18
Jersey Shore ARS	NJ2AR + K2HVE	2,845	3	4AC, (2) 1D	581	2	22
Delaware Valley RA	W2ZQ	2,642	1	3A	554	2	10
Radio Operators of Camden County	K2AUD	664	1	4A	57	2	5



Gloucester County Amateur Radio Club
2024 Field Day Scores Summary

	2024	Rank		Total #
Score	12,377			12,377
Class	9A	2	out of	3
QSOs	2,721			
Power Mult	2			
Section	SNJ	2	out of	9
Division	AT			
Participants	54			

“a Festivus for the rest of us”
Monday, December 23, 2024

Customary Practices :

- **Festivus Pole : A 6 Foot Aluminum Pole.**
- **Festivus Dinner : Meatloaf, Spaghetti With Red Sauce.**
- **The Airing Of Grievances : It Consist Of Each Person Lashing Out At Others And The World.**
- **Feats Of Strength : The Head Of The Household Challenges Each Guest To A Wrestling Match.**
- **Festivus Miracles : It’s A Miracle Somebody Hasn’t Called The Cops By Now!!**

Need a ride to a Club meeting, event, or activity?

Just send a message to the Club’s e-mail reflector asking if a member can pick you up

GCARC <*at*> MAILMAN <*dot*> QTH <*dot*> NET

All Club members have access to this FREE e-mail service

GCARC Monthly VE Exam Testing Summary - November 14, 2024

By Chris Prioli, AD2CS

The regular monthly VE session was held on 14 November at the W2MMD Clubhouse. There were three exam candidates, all for the Element 3 exam, and all completers of the GCARC Ham Exam Preparation Class. The session was attended by a total of 12 GCARC Volunteer Examiners. The Team Liaison for this session was **Chris Prioli ADCS**.

The candidates who successfully completed the requirements and therefore earned a General license were :

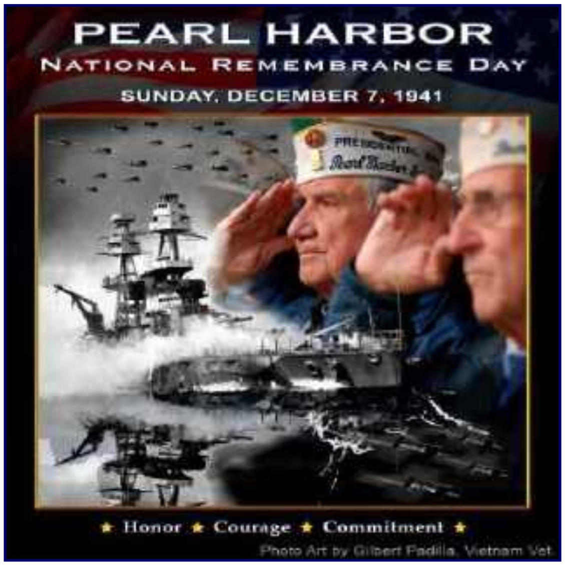
- **Robert Ciotti Jr, KC3ZFT of Havertown, PA**
- **Harry Eshleman Jr, KE2DQA of Monroeville, NJ**

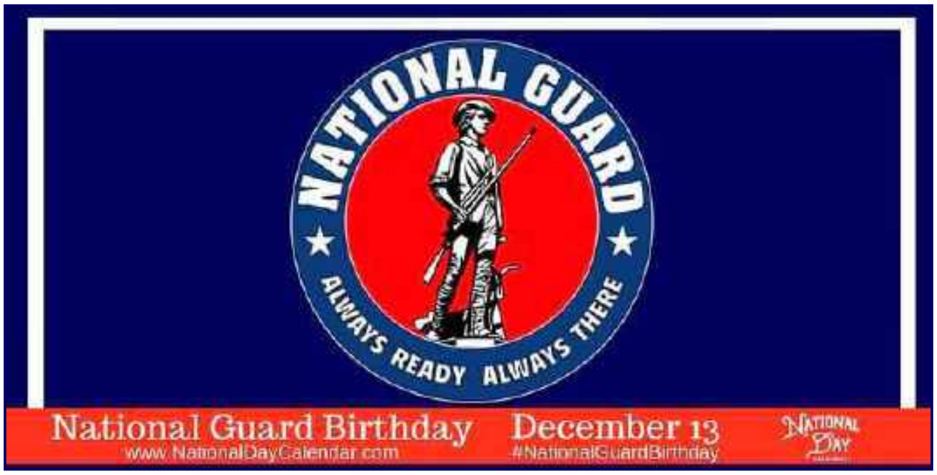
While Harry was already a GCARC Club member, Bob decided to join the Club upon successful completion of the exam.

The GCARC VE Team that proctored the exam session included the following Volunteer Examiners :

- **Mike Resnick N2WOQ**
- **Earl Moore KC2NCH**
- **Lee Marino N2LAM**
- **Rich Subers W2RHS**
- **Mike Thompson KG4JYA**
- **Mike Harla N2MHO**
- **Court Smith KD2SPJ**
- **Greg Ciraula K3GC**
- **MaryLu Ciraula K3MLC**
- **Jerry Barnish K2EAB**
- **Steve Farney W2SEF**
- **Chris Prioli AD2CS**

The next regularly-scheduled VE session will be held on 12 December 2024 at 1900 Hours at the W2MMD Clubhouse, as usual. What is not "as usual" is that the VE team will be transitioning to a new electronic testing, grading, and submission system at the December session. This is in keeping with the nationwide move towards electronic testing of FCC license candidates. To that end, a "mock exam" training session was held on 21 November, as a means of preparing the VE Team for the new methodologies.


PEARL HARBOR
NATIONAL REMEMBRANCE DAY
SUNDAY, DECEMBER 7, 1941
★ Honor ★ Courage ★ Commitment ★
Photo Art by Gilbert Padilla, Vietnam Vet



DAs and DITs

>> Congratulations to **Harry Eshleman Jr, KE2DQA**, who upgraded to **General Class**.

>> Your Editor would like thank the following Club members who helped get my antenna up and on the air :

- **Steve Farney, W2SEF**, who donated a Cushcraft 2M Ringo Ranger antenna
- **Chris Prioli, AD2CS**, who fixed some tuning problems and supervised the installation
- **Rich Subers, W2RHS**, who helped with the installation
- **Earl Moore, KC2NCH**, who helped with the installation

>> Get well to **Gary Reed, N2QEE**, recovering from a recent medical issue.

GIVING TUESDAY

**Tuesday,
December 3, 2024**

Gloucester County Amateur Radio Club Elmers

We are still looking for some more Club Elmers. If you would to add your name to the Elmer's List, send your specialty to w2mmdgcarc@gmail.com. Here is what we have so far :

- **Tony Starr, K3TS : Antenna Construction; Contesting; CW Help and Training**
- **Ken Bozarth, KN2U : Antennas**
- **Jeff Welsh, KD2AZI : Boat Anchor Repair & Operation; Raspberry Pi; Arduino; Python; POTA; Mobile Installation & Operating**
- **Karl Frank, W2KBF : Digital Messaging (FLDIGI, WinLink)**
- **Lenny Rust, W2LJR : DMR Radios & Programming**
- **Ron Block, NR2B : Lightning protection & grounding**
- **Chris Prioli, AD2CS : Kit Building; Antenna Building; Radio Programming; PC and Electronic Troubleshooting; Ham Radio Licensing & Studying**
- **John Zaruba Jr, K2ZA : Yaesu System Fusion Radio Programming; POTA; SOTA; CW Learning & Operating**
- **Jerry Barnish, K2EAB : Radio Astronomy**
- **Mike Thompson, KG4JYA : Radio Astronomy; VARA (HF and FM); WinLink**
- **Steve Farney, W2SEF : WSJT-X; FT-8; LoTW; TQSL; Grid Square**
- **Carl Wittig, N2CRW : Audacity® Audio Editor**
- **Gary Mirkin, WA3SVW : FLDIGI; MMSSTV**
- **Jon Pearce, WB2MNF : Satellite Communications**
- **Frank Romeo, N3PUU : Toilet Installer; Jack-Of-All Trades - Master Of None**
- **John Hill, W2HUV : Local & Remote W2MMD HF Station Operation; Training & Support**
- **Dave Sheppard, W2PAX : National Traffic System**

The Education Connection

By Chris Prioli, AD2CS - chris@ad2cs.com
www.ad2cs.com

December 2024

Well, Session VIII of the GCARC Ham Exam Preparation Classes is now in the books. I was both pleased and disappointed with the outcome. The Technician (Element 2) class dematerialized, as the students all dropped out for various reasons. On the other hand, we gained two new General-rated operators and also two new Club members.

The next session will be held at some point after the first of the year - look for some firm information in next month's column. In the meanwhile, I am keeping myself busy with some other training classes…

As I mentioned in last month's column, I have made the plans and arrangements for another NanoVNA class. This class is scheduled to run on the 3rd and 5th days of December, from 1800 Hours to 2100 Hours for a pair of three-hour classes (with a break at the mid-point). The classes will be held at the W2MMD Clubhouse.

The tentative class program is as follows :

- **Meeting 1 : Tuesday, December 3, 2024**
  - ◊ **Basic Familiarization With The NanoVNA**
    - **A. Exploring The menu system**
    - **B. Understanding how to navigate the NanoVNA**
    - **C. Understanding the NanoVNA features and capabilities**
  - ◊ **Updating NanoVNA firmware**
  - ◊ **Calibration of the NanoVNA**
    - **A. How to make custom calibration standards**
    - **B. Understanding the need for and methods of calibrating the unit**
- **Meeting 2 : Thursday, December 5, 2024**
  - ◊ **Antenna system analysis with the NanoVNA**
  - ◊ **Feedline analysis with the NanoVNA**
  - ◊ **Capturing and using screenshots from the NanoVNA**
  - ◊ **PC interface for the NanoVNA**
  - ◊ **Exploring various NanoVNA operational modes**
  - ◊ **Comparing the NanoVNA to a Rig Expert antenna analyzer**

The cost for the class is $15.00, which is intended to cover the Club's costs in putting the classes together. Each student will be given a circuit board on which four different filter circuits have been assembled. We will use these boards during the class experiments.

Each attendee must have a NanoVNA for personal use in this class. While the specific make and model do not matter very much, the class will in all likelihood run more smoothly if we all have the same type of instrument. The preferred model is the NanoVNA H4, which is readily available through Amazon. The current price is right around a hundred dollars. Just make sure that the model that you purchase includes a micro-SD card slot. To go along with that slot, each attendee will also need bring a 32GB microSD card to class, as we will be using the card slots during the program. Finally, each attendee will want to bring a notebook and something with which to write.

Education Connection - Continued on page 15

Education Connection - Continued from page 14

If this class is for you, take a few minutes and drop me an email so that I can get your name on the class roster and hold your seat.

My targeted class size is about a dozen students, and this one is filling up quickly.

Don’t wait too long and miss out because of that wait!

That’s it for now… see you next month!

NanoVNA Exploration Class
W2MMD Clubhouse

Meeting 1 : Tuesday, December 3, 2024
Meeting 2 : Thursday, December 5, 2024
1800 to 2100 Hours
Class Fee : $15.00
Please make your PayPal payment to
EDUCATION @ W2MMD.ORG

You can also pay at any Saturday @ The Clubhouse

More Information at :
https://gloucestercountyarc.weebly.com/nanovna-exploration.html

W2MMD

www.facebook.com/W2MMD

twitter.com/w2mmd_gcarc

Facebook

Tuesday AfterNoon Net @ 1200 Hours

Net Control Stations :

Steve Farney, W2SEF; Rich Subers, W2RHS,
Greg Ciraula, K3GC; & Jeff Garth, WB2ZBN

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks

Greg Ciraula, K3GC : December 3, 2024
Steve Farney, W2SEF : December 10, 2024
Rich Subers, W2RHS : December 17, 2024
Christmas Eve : December 24, 2024
New Year's Eve : December 31, 2024

If you would like to be a Net Control Station for this net, please contact Steve Farney, W2SEF

Thursday Night Rag Chew Net @ 2000 Hours

Net Control Stations :

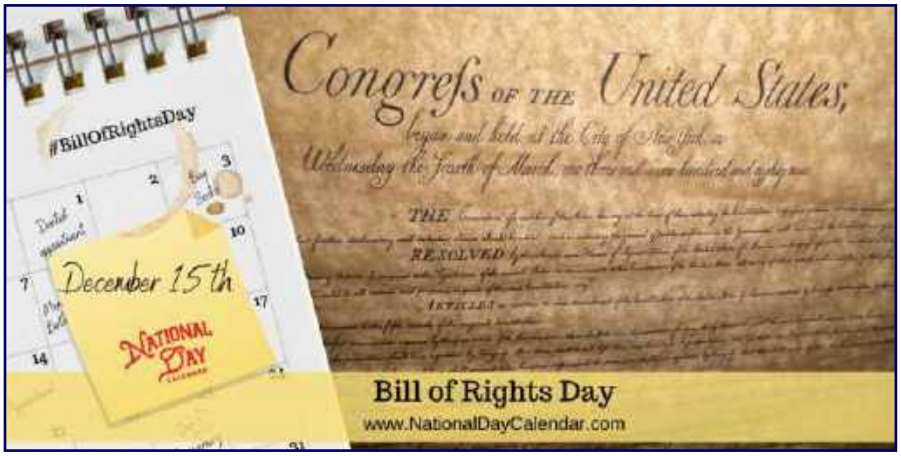
Mary Delemarre, W2TDS; Gary Mirkin, WA3SVW;
Steve Farney, W2SEF; & Jeff Garth, WB2ZBN

147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

Here is the schedule for the upcoming weeks :

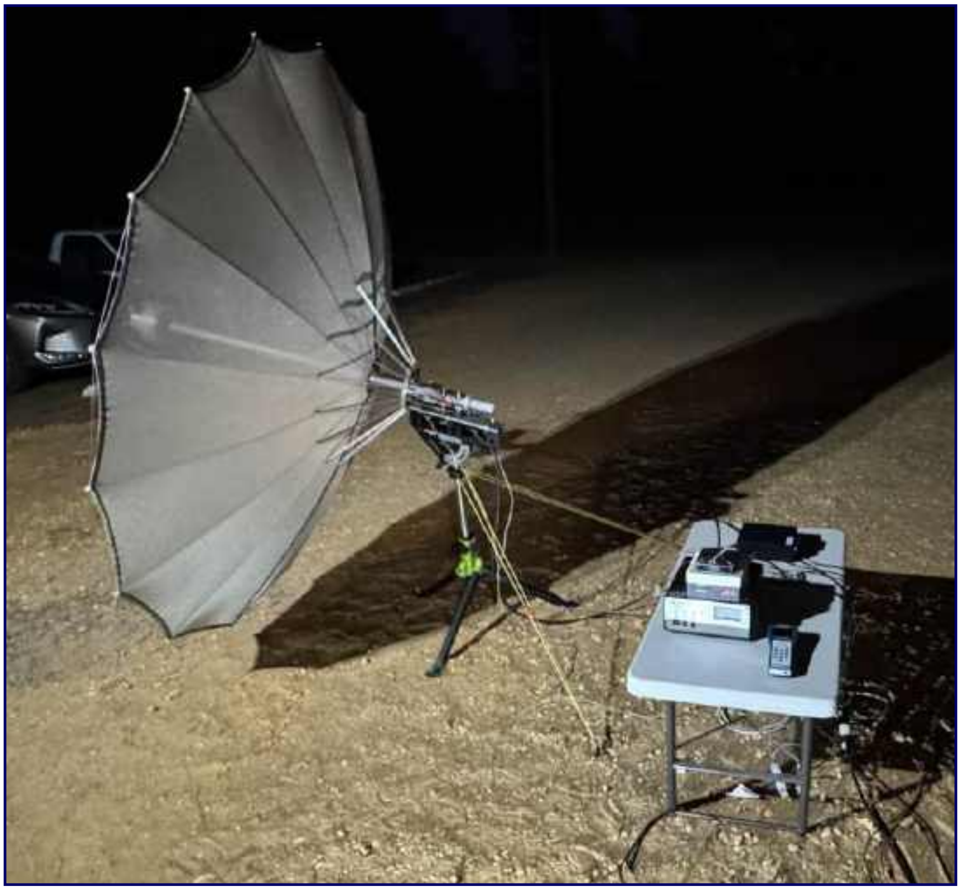
Jeff Garth, WB2ZBN : December 5, 2024
Mary Delemarre, W2TDS : December 12, 2024
Gary Mirkin, WA3SVW: December 19, 2024
Steve Farney, W2SEF : December 26, 2024

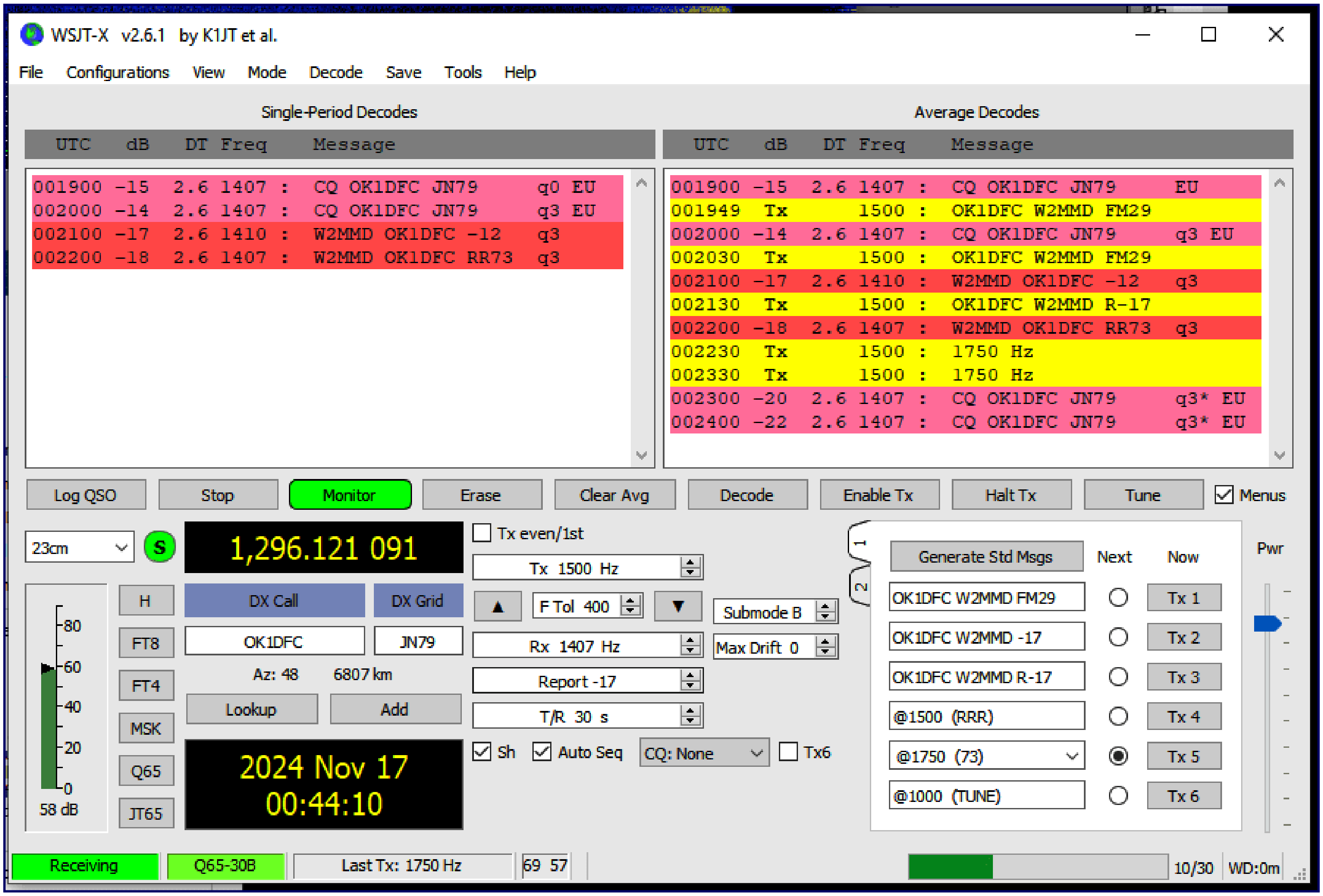
If you would like to be a Net Control Station for this net, please contact Jeff Garth, WB2ZBN



W2MMD's First 1296 MHz EME Contact Using Our Dish Antenna

QSO with Zdenek Samek OK1DFC, Czech Republic





Single-Period Decodes

```
 UTC    dB   DT Freq    Message
001900 -15  2.6 1407 :  CQ OK1DFC JN79      q0 EU
002000 -14  2.6 1407 :  CQ OK1DFC JN79      q3 EU
002100 -17  2.6 1410 :  W2MMD OK1DFC -12    q3
002200 -18  2.6 1407 :  W2MMD OK1DFC RR73   q3
```

Average Decodes

```
 UTC    dB   DT Freq    Message
001900 -15  2.6 1407 :  CQ OK1DFC JN79      EU
001949  Tx      1500 :  OK1DFC W2MMD FM29
002000 -14  2.6 1407 :  CQ OK1DFC JN79      q3 EU
002030  Tx      1500 :  OK1DFC W2MMD FM29
002100 -17  2.6 1410 :  W2MMD OK1DFC -12    q3
002130  Tx      1500 :  OK1DFC W2MMD R-17
002200 -18  2.6 1407 :  W2MMD OK1DFC RR73   q3
002230  Tx      1500 :  1750 Hz
002330  Tx      1500 :  1750 Hz
002300 -20  2.6 1407 :  CQ OK1DFC JN79      q3* EU
002400 -22  2.6 1407 :  CQ OK1DFC JN79      q3* EU
```

23cm

1,296.121 091

DX Call: OK1DFC

DX Grid: JN79

Az: 48 6807 km

58 dB

2024 Nov 17
00:44:10

☐ Tx even/1st

Tx 1500 Hz

F Tol 400

Rx 1407 Hz

Report -17

T/R 30 s

Submode B

Max Drift 0

☑ Sh ☑ Auto Seq CQ: None ☐ Tx6

OK1DFC W2MMD FM29 ○ Tx 1
OK1DFC W2MMD -17 ○ Tx 2
OK1DFC W2MMD R-17 ○ Tx 3
@1500 (RRR) ○ Tx 4
@1750 (73) ● Tx 5
@1000 (TUNE) ○ Tx 6

Receiving | Q65-30B | Last Tx: 1750 Hz | 69 57 | 10/30 | WD:0m

Gloucester County Skywarn Net

The Gloucester County Skywarn Net is held every Sunday @ 1930 Hours on the 147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

All Are Welcome To Participate

Net Control Stations : Steve Bromhead KB2RTZ, Charlie Wahl, KC2STO, & Jeff Garth WB2ZBN

Gloucester County ARES Net

The Gloucester County ARES Net is held every Sunday @ 2000 Hours on the 147.180 MHz (+) (131.8) Repeater & EchoLink W2MMD-R

All are welcome to participate

Net Control Stations :
Steve Farney W2SEF, Bob Keogh KD2NEC, Karl Frank W2KBF, Al Arrison KB2AYU, Gary Mirkin WA3SVW, Greg Ciraula, K3GC & Todd Woodward KD2ESH

Gary Mirkin WA3SVW : December 1, 2024
Todd Woodward KD2ESH : December 8, 2024
Bob Keogh KD2NEC : December 15, 2024
Karl Frank W2KBF : December 22, 2024
Steve Farney, W2SEF : December 29, 2024

Anyone who is interested in joining the Gloucester County ARES Team, is invited to contact Bob Keogh at KD2NEC @ QSL.NET

ARRL Learning Center
https://learn.arrl.org

Discover how to make Amateur Radio your own.

Online courses from the ARRL Learning Center provide ARRL members with additional instruction and training for getting on the air, emergency communications, and electronics and technology

Current Website Updates : Go to this page to find out the latest changes & updates on our W2MMD Website
https://gloucestercountyarc.weebly.com/current-website-updates.html

At The Repair Bench…

A monthly column describing a recent repair bench event.

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

Yaesu G-2700XDS Azimuth Rotator System - December 2024

As my regular readers are well aware, I enjoy taking on the oddball repairs and the repairs that other shops will not or cannot handle. Sometimes that penchant for the unusual will bite me, but for the most part, it has led to some interesting repair case histories. This one is no different.

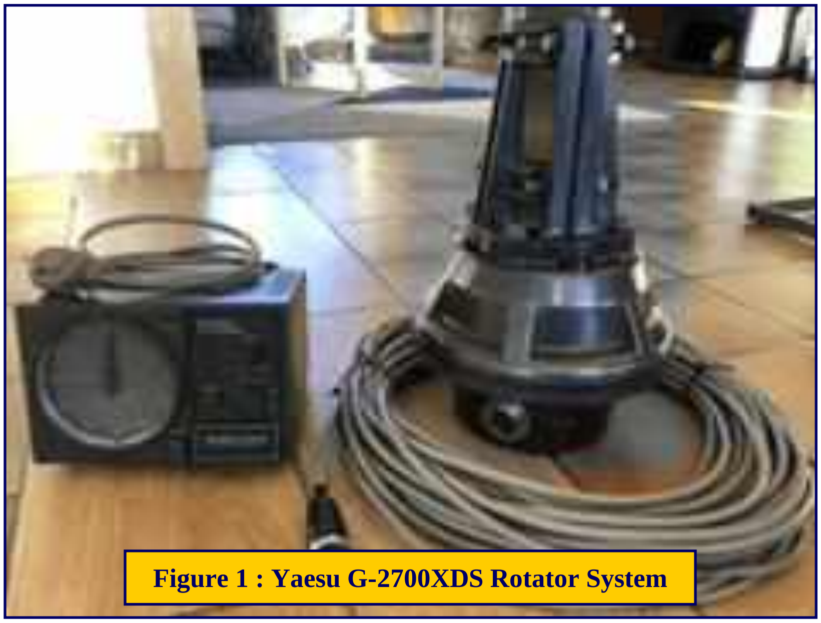


Figure 1 : Yaesu G-2700XDS Rotator System

I was asked by a regular customer to take a look at his **Yaesu G-2700XDS Azimuth Rotator System (Figure 1)** due to the fact that there is no motion indication on the panel meter of the controller. He brought me the motion unit, the G-2700 controller, and a second G-1000 controller. He had experimented with the second controller, and had gotten a limited response on the meter of that controller, about a 90° swing, but it only occurred one time and he could not get it to repeat the behavior.

It must be understood that the positional display on the panel meter of the Yaesu rotators (and many others as well) is a co-operative effort between components inside the controller and components inside the motion unit. In a nutshell, there is a potentiometer inside the motion unit that is driven through a gearing arrangement that is connected through to the motor and its driven gear. There are multiple levels of reduction in both directions before we ever get to the potentiometer drive gear, and the gearing must be such to allow the full amount of rotator motion within a single swing of the potentiometer from one limit to the other. This is very important with some models of rotator, especially with those that have a turn and a quarter (450°) or a turn and a half or 540° of motion from limit switch to limit switch. The entire amount of that degree of rotation must occur within - and actually less than - a single rotation of the potentiometer, which in and of itself does ***not*** have a full 360° of rotational range between its stops.

The relationship between the potentiometer drive and the position of the rotating element is established through the various gears used in the drive system. There are a couple of important points to understand when assembling one of these units, however, that are related to the potentiometer. The first is that we must determine where the center-point of the unit rotational travel will be and position the unit in alignment with that center point when installing it. The second is that we must also determine where the mid-point of the potentiometer's rotational range is located and position the potentiometer at that mid-point for the assembly of the unit. It is only when both the motion system and the potentiometer are oriented at the centers of their rotational ranges that we can be assured of proper timing between the motion unit and the potentiometer.

At The Repair Bench - Continued on page 20

At The Repair Bench - Continued from page 19

As a result of all of this, a varying voltage signal is available on one of the wire leads from the motion unit to the controller. The harness cable between the two units generally contains six wires, distributed as below :

- **Motor Common**
- **Motor Clockwise**
- **Motor Counter-Clockwise**
- **Potentiometer Supply**
- **Potentiometer Wiper**
- **Potentiometer Ground**

The potentiometer wiper lead is where we will find the varying voltage that indicates the relative position of the motion unit between its limits of motion. A nominal 6VDC is supplied to the potentiometer, being connected to one end of the potentiometer, while the opposite end of the potentiometer is connected to the system ground. The voltage on the potentiometer wiper will vary as the potentiometer rotates with the rotation of the motion unit, and that varying voltage is the input signal to the controller for driving the meter.

With this in mind, it should make sense that if we monitor that wiper lead while the motion unit rotates, we would expect to find a varying voltage available there. If there is no voltage, we have either a failed supply to the potentiometer, a failed (open) potentiometer, or an open circuit in one or more of the potentiometer's leads. If we measure a fixed voltage there while the motion unit rotates, we have a potentiometer that is either not being driven due to a failure in the drive system, or we have a seized potentiometer that cannot rotate.

In most of the Yaesu rotators, the potentiometer drive gear is a nylon gear that is fastened to the potentiometer shaft by way of a set-screw installed into the gear hub. In many units, this nylon gear is directly driven by one of the motion system gears. However, in the G-2700, there is a different arrangement for driving the potentiometer gear. In this design, the unit gearing drives a stamped steel gear that is mounted to a short shaft. That shaft extends through the motor mounting plate into the lower area of the rotator housing, where the potentiometer is installed. The lower end of that shaft has a small quill gear secured to the shaft, and it is that quill gear that in turn drives the potentiometer gear. As a result, when first opening up the motion unit, the potentiometer and its drive gear are hidden, out of sight below the motor mounting plate.

When I opened up this particular motion unit, I found plenty of indication of water entry into the housing, in the form of heavy corrosion on most of the internal parts ***(Figure 2)***. This included the stamped steel gear that drives the shaft that in turn drives quill gear that drives the potentiometer gear ***(Figure 3)***. In this illustration, it is quite difficult to see the drive gear - note the set-screw in the gear hub and then move out from there. The drive gear is the piece with all of the red corrosion on it.

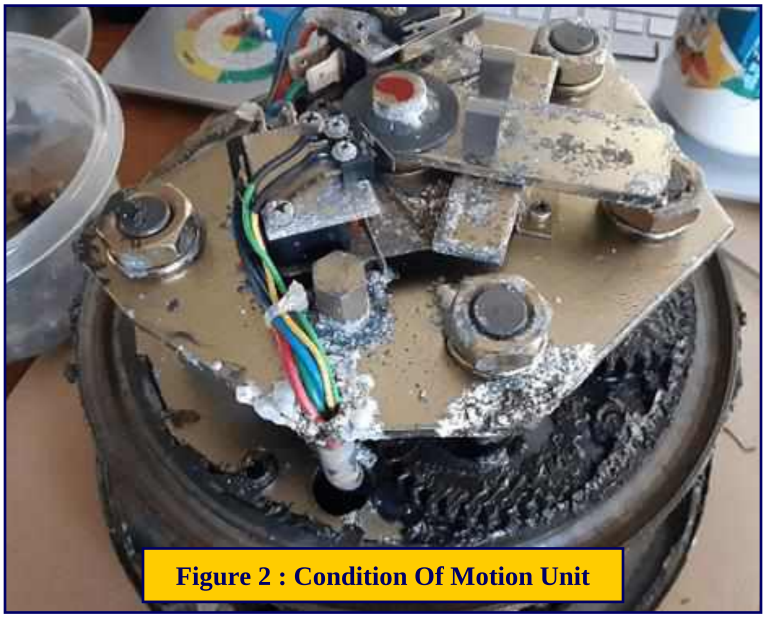


Figure 2 : Condition Of Motion Unit

At The Repair Bench - Continued on page 21

At The Repair Bench - Continued from page 20

I removed the cap screws that secure the motor mounting plate to the housing, and lifted the motor unit up and out so as to get to the potentiometer and gear. Next, I removed the stamped steel drive gear and the drive shaft by loosening the set-screw in the small quill gear at the lower end of the drive shaft. Once the shaft was out, I could remove that quill gear and had an isolated potentiometer and its drive gear. A quick check of the potentiometer gear for the ability to rotate showed that the potentiometer was seized. It only took a couple of minutes to remove the potentiometer gear and then the potentiometer itself from the unit ***(Figure 4)***.

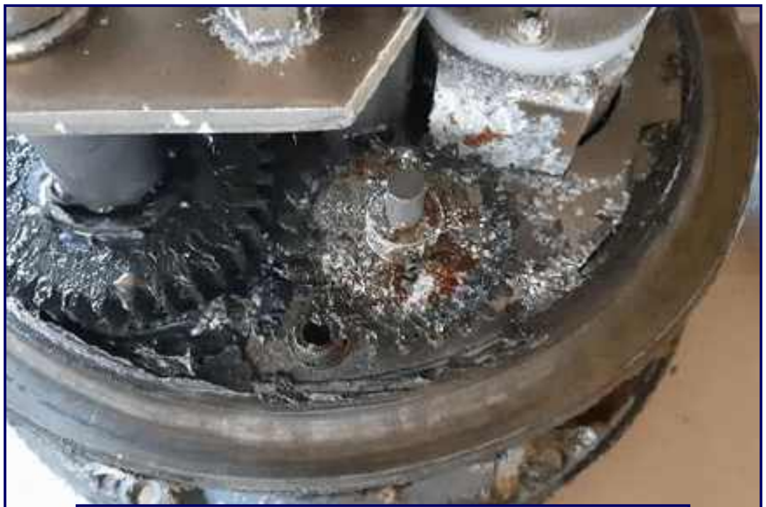


Figure 3 : Condition Of Potentiometer Drive Gear

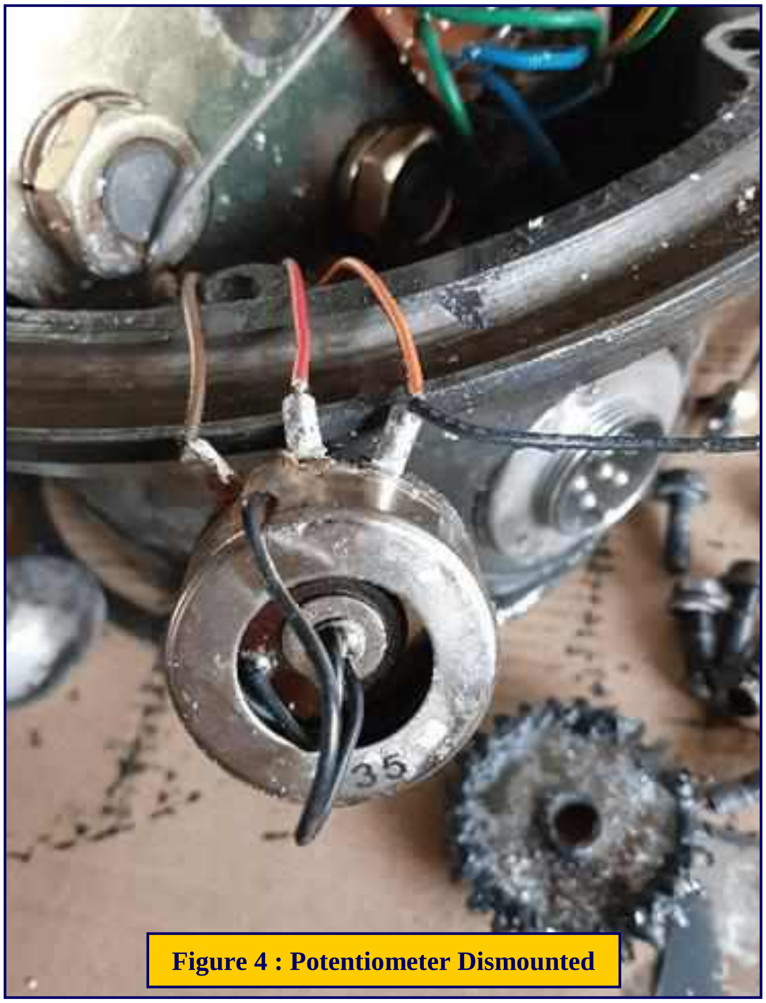


Figure 4 : Potentiometer Dismounted

I thought that it might just be a matter of replacing the potentiometer with a new one, but as it turned out, the seizure of the potentiometer caused damage to the hub of the gear. To start with, the gear hub, which like the gear is made of nylon, had fractured longitudinally along the length of the hub, in two diametrically-opposed locations. This meant that tightening the set-screw would not secure the gear to the potentiometer shaft, but would only serve to spread the fractures wider apart. I cured this by first cleaning the hub thoroughly with residue-free solvents. Then, I did some plastic-welding of the cracks in the hub, using the soldering iron. Finally, using some safety wire, I made a couple of wraps of wire around the hub and then twisted the ends tight, so as to form a clamp around the hub. This clamp would keep the hub from spreading as the set-screw was tightened.

The second manner in which the gear hub was damaged was that the hub bore was badly worn on the side opposite the set-screw. This is an apparent result of the gear rotating on the potentiometer shaft rather than turning the shaft. In any event, this wear caused the gear to be pulled off-square when the set-screw was tightened on the new potentiometer, leaving the gear to ***"wobble"*** on the shaft and causing changes in its mesh with the quill gear. I resolved this issue by building up the potentiometer shaft slightly, using two different lengths of copper tape applied to the potentiometer shaft opposite the point where the set-screw would touch the shaft. I first laid down a slightly longer strip of copper tape, and then applied a somewhat shorter length at the direct opposite point from the set-screw. This tape took up the slack in the bore of the gear hub, causing the gear to tighten securely and as squarely as possible.

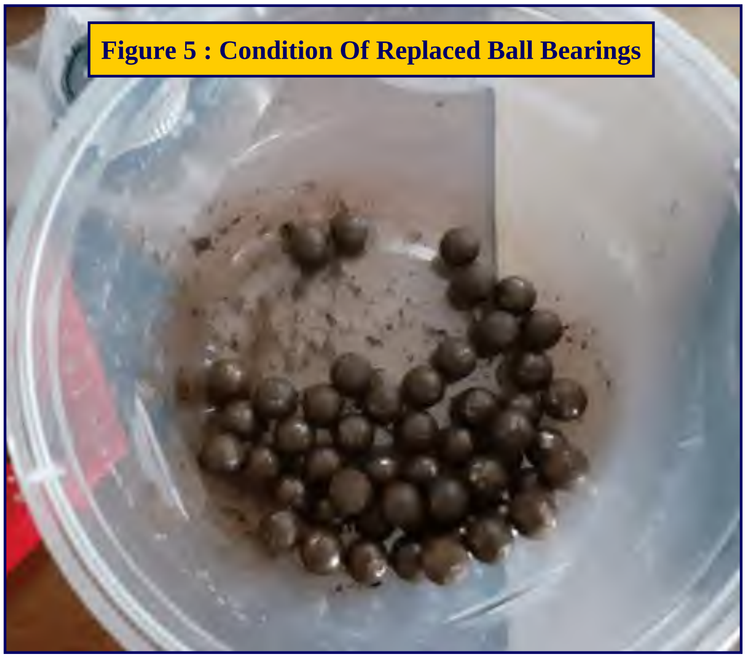
At The Repair Bench - Continued on page 22

At The Repair Bench - Continued from page 21

The leads for the potentiometer were very short, making it extremely difficult to manipulate or maneuver the potentiometer in the housing to any extent. To aid in the installation of the new potentiometer, I extended the three leads, using 22AWG stranded wire of the same colors, and covering the soldered splices with heat-shrink tube insulation. When replacing this potentiometer, be sure to place the mylar sheet back in place under the body of the potentiometer, as it serves to ensure that there is no shorting of the potentiometer leads to the frame of the motion unit. I added four inches of wire to each lead.

I spent a lot of time cleaning the corrosion and contaminated lubricant out of the motion unit. The two rows of ball bearings required special attention as they had fine coatings of rust on many of the balls. The ball tracks in the housing halves were thoroughly cleaned, as was the remainder of the motion unit gearing and motor assembly. ***See Figure 5***.

Figure 5 : Condition Of Replaced Ball Bearings



Next, I reassembled the potentiometer and its drive system, positioning the potentiometer at the midpoint of its rotational range. I then lubricated the ball tracks and installed the cleaned ball bearings, replacing those that merited replacement. The balls were coated with lubricant as they were installed into their tracks, and then the installed row of balls had some additional lubricant applied to them for good measure. The lubricating grease on these ball bearings is the only water barrier present on this motion unit, so it is important to have adequate coverage of the lubricating grease on these ball bearings.

The motion system housing half was installed, positioning it in such a manner that the cast boss that operates the limit switches was aligned directly across the unit from the limit switch pair. This effectively sets the motion unit to the center point of its rotational range, and thus times it to the potentiometer.

The lower track of ball bearings was lifted into place against the housing, and then the entire unit was inverted so as to allow the installation of the cap screws that secure the housing halves to each other. Once the assembly of the motion unit was complete, it was tested operationally by connecting it to a known good controller and checking its operation throughout its full range of motion.

Next, it was time to test the G-2700 controller with the motion unit. The controller drove the unit successfully, but there was no meter indication of the motion of the rotator. I discussed the situation with the owner of the system, and he decided to use the second controller with this motion unit and not to spend any money on the G-2700 controller.

I assembled a test cable for the G-1000 controller to connect it to the G-2700 motion unit, and then checked the operation of that controller and its meter, to find that all was working as it should. The owner decided to leave those units paired, and said that he would bring me a length of cable for installation of the correct connectors at a later date.

This was a repair that brought some unexpected circumstances, but that turned out well in spite of that. It illustrates the point that with some ingenuity, most problems can be overcome. When a strange condition turns up, stop and think it through. Consider all of your options, and then choose that option which has the best odds of success. Properly executed, your work should turn out as you want it to.

Be A Club Volunteer!

Club Technical Volunteer Projects :

- **Processing monthly membership meeting and Tech Saturday videos for the YouTube channel**
- **Assisting the AV team at the Wednesday Night General Membership Meetings**
- **Assisting in the inventory of Clubhouse assets and keeping that inventory current**
- **For the more technically inclined, managing the SatNOGS station, reviewing observations, and adding new satellites to the list of those being tracked**
- **Reviewing new technologies for presentation at meetings or write-ups in CrossTalk.**

For example, the VarAC HF digital communications program has recently been updated, it is installed on the HF station at the Clubhouse, and might provide an opportunity for an interesting short article or presentation

If you would like to volunteer for any of these projects, please contact Jon WB2MNF, Ron NR2B, or Chris AD2CS

Clubhouse Construction Volunteer Projects :

Shed : Build Ramp

Clubhouse :

- **Build Ramp**
- **Replace Interior Front Door**
- **Power Wash Siding**
- **Replace Back Steps**

Lightning Protection Project :

- **Install copper strapping in Library Room**
- **Install copper strapping in VHF/UHF Room**
- **Complete grounding rod installation around Clubhouse and Towers**

Install Utilities On New Front Parking Lot Pole

Install New VHF Towers

A *Club* that goes *above* and *beyond* for their communities and for Amateur Radio,
is what defines a *Special Service Club (SSC).*

They are the leaders in their Amateur Radio communities who provide active training classes, publicity programs, and actively pursue technical projects and operating activities.

GCARC has been an ARRL Affiliated Club since
February 1960 and an SSC since April 2010.

Club Member	DMR ID
W2MMD Clubhouse	**3198604**
Michael Andrescavage, N2ICV	3134044
Lance Appel, KE2UC	3200487
Alex Calabrese, WA2ADS	3100583
Chuck Capasso, WB2PGE	3169781
Matthew Carango, N3QB	3169432
Todd Cecilio, KA2YNT	3169458
Anthony Cerami, N2OAC	3202759
Mark Clark, N3QMJ	3102110
Holden Correia-Fisher, KD2JPV	3104911
Mike Covaleski, N2MMC	3134855
Walter Coward, WX2E	3166863
Bob Demola, KD2GFL	3134319
Doug Dersch, KD2VQA	3193630
Thomas Distelcamp Sr, KC2GYC	3110869
Glenn Dougherty, N2YIO	3161836
Adam Duncan, W3DUN	3202691
Herb Dyer, KT2Y	3134907
Harry Elwell, AD5TT	3128498
James Foster, W3JNF	3142117
Karl Frank, W2KBF	3146716
Glen Guenther, KE2BUO	3202079
Melissa Guenther, KE2BWZ	3202496
Deirdre Anne Hebert, AD2GQ (AB1ST)	3133330

Club Member	DMR ID
Chuck Lanard, KD2EIB	3134298
Gary Mirkin, WA3SVW	3165494
John Murrow, KD2NHK	1134122
Phil Nunzio, WA3RGY	3134336
John O'Connell, K2QA	3110610
Robert Pantazes, W2ARP	3157208
Jonathan Pearce, WB2MNF	3163415
Michael Pecorini, K2MRP	3132996
Michael Pentimall, KC3VTF	3203601
John Price III, KD2QYC	3123583
Chris Prioli, AD2CS	3195449
Michael Resnick, N2WOQ	1134013
Len Rust III, W2LJR	3186225
Len Rust IV, K2LJR	3196243
Dave Sheppard, W2PAX	3112666
Cory Sickles, WA3UVV	1142052
James Simeone, KC2AOF	3134848
Court Smith, KD2SPJ	3186243
Jackson Snyder, AI2D	3164371
Rich Subers, W2RHS	3204316
Brett Waller, K2BKW (KC2UXQ)	3134261
Bill Wood, KD2OSJ	3197459
John Zaruba Jr, K2ZA	3134331

For more information, DMR links, and W2LJR's DMR presentations, go to :
https://gloucestercountyarc.weebly.com/dmr.html

CrossTalk Submissions

This is your Club Magazine. Make use of it.

If you have stories or photos of your hobby that you would like to share with the Club, please do so! We will keep covering all of the GCARC events, but it is also nice to get those personal perspectives to include in every issue. Connecting through experiences is what makes the Gloucester County Amateur Radio Club a *REAL* Club.

All submissions, queries, comments, and editorials should be addressed to :
Jeff Garth, WB2ZBN at djgrath1 <*at*> gmail <*dot*> com

Submission deadline for the January 2025 issue : Friday, December 20, 2024

Club Website www.w2mmd.org
Club E-Mail Reflector : GCARC <*at*> Mailman <*dot*> QTH <*dot*> Net

DMR Configuration Sequence

1. Obtain and Configure DMR ID :
    - https://www.radioid.net
2. Download Contact List :
    - http://www.dmrcontacts.com
3. Identify Repeater or Hotspot :
    - https://www.repeaterbook.com
4. Define Talk Groups
    - Numerical ID
    - Text Name

https://brandmeister.network/?page=talkgroups

5. Create Channel
    - Select Number
    - Assign Name
    - Select DMR ID
    - Assign Frequency
        - Transmit
        - Receive
        - Bandwidth
        - Power
        - DMR Mode (Simplex/Repeater)
        - TX Permit (Channel Free)
    - Assign Talk Group
    - Assign Color Code
        - Agreed Upon with Other Users
    - Assign Time Slot
    - Agreed Upon with Other Users

6. Create Zone

7. Add Channels to Zones

8. Configure Features

9. Upload Code Plug

10. Upload Contact List

If you recently changed your callsign, contact idteam@dmr-marc.net to have your DMR ID transferred to your new callsign.

ARES Resources (Updated as of November 2024)

ARRL ARES Registration Form : https://bit.ly/3Ae2pCf
Download the ARES Manual [PDF] : https://bit.ly/3iUhJLQ
ARES Field Resources Manual [PDF] : https://bit.ly/3QT4PtY
ARES Standardized Training Plan Task Book July 2024 Ver. 3.0 [Fillable PDF] : https://bit.ly/4dToEes
ARES Standardized Training Plan Task Book July 2024 [Word] : https://bit.ly/4heLXSU
ARRL ARES Plan July 2024 : https://bit.ly/3Uf8gyf
ARES Group Registration : http://bit.ly/3XodGpX
ARRL Emergency Communications Training : http://bit.ly/3J2gMMf
FEMA 2023 National Preparedness Report : https://bit.ly/3YrPWnY
Southern New Jersey Section Emergency Operations Plan 2023.PDF : https://bit.ly/3YqMdHb

The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes. Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an amateur radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable but is not a requirement for membership.

If you are interested in learning more about the Gloucester County ARES Program or becoming an ARES member, please contact Bob Keogh (KD2NEC@QSL.NET)

2024-2028 Element 4 Amateur Extra Class License Question Quiz

This month we finish up with Subelement E1 Commission Rules (6 exam questions - 6 groups).
(Answers on Page 59)

E1F01
On what frequencies are spread spectrum transmissions permitted?
A. Only on amateur frequencies above 50 MHz
B. Only on amateur frequencies above 222 MHz
C. Only on amateur frequencies above 420 MHz
D. Only on amateur frequencies above 144 MHz

E1F02
What privileges are authorized in the US to persons holding an amateur service license granted by the government of Canada?
A. None, they must obtain a US license
B. Full privileges of the General class license on the 80-, 40-, 20-, 15-, and 10-meter bands
C. The operating terms and conditions of the Canadian amateur service license, not to exceed US Amateur Extra class license privileges
D. Full privileges, up to and including those of the Amateur Extra class license, on the 80-, 40-, 20-, 15-, and 10-meter bands

E1F03
Under what circumstances may a dealer sell an external RF power amplifier capable of operation below 144 MHz if it has not been granted FCC certification?
A. Gain is less than 23 dB when driven by power of 10 watts or less
B. The equipment dealer assembled it from a kit
C. It was manufactured and certificated in a country which has a reciprocal certification agreement with the FCC
D. The amplifier is constructed or modified by an amateur radio operator for use at an amateur station

E1F04
Which of the following geographic descriptions approximately describes "Line A"?
A. A line roughly parallel to and south of the border between the US and Canada
B. A line roughly parallel to and west of the US Atlantic coastline
C. A line roughly parallel to and north of the border between the US and Mexico
D. A line roughly parallel to and east of the US Pacific coastline

E1F05
Amateur stations may not transmit in which of the following frequency segments if they are located in the contiguous 48 states and north of Line A?
A. 440 MHz - 450 MHz
B. 53 MHz - 54 MHz
C. 222 MHz - 223 MHz
D. 420 MHz - 430 MHz

Element 4 Amateur Extra Class Quiz - Continued on page 27

Element 4 Amateur Extra Class Quiz - Continued from page 26

E1F06

Under what circumstances might the FCC issue a Special Temporary Authority (STA) to an amateur station?

A. To provide for experimental amateur communications
B. To allow use of a special event call sign
C. To allow a VE group with less than three VEs to administer examinations in a remote, sparsely populated area
D. To allow a licensee who has passed an upgrade exam to operate with upgraded privileges while waiting for posting on the FCC database

E1F07

When may an amateur station send a message to a business?

A. When the pecuniary interest of the amateur or his or her employer is less than $25
B. When the pecuniary interest of the amateur or his or her employer is less than $50
C. At no time
D. When neither the amateur nor their employer has a pecuniary interest in the communications

E1F08

Which of the following types of amateur station communications are prohibited?

A. Communications transmitted for hire or material compensation, except as otherwise provided in the rules
B. Communications that have political content, except as allowed by the Fairness Doctrine
C. Communications that have religious content
D. Communications in a language other than English

E1F09

Which of the following cannot be transmitted over an amateur radio mesh network?

A. Third party traffic
B. Email
C. Messages encoded to obscure their meaning
D. All these choices are correct

E1F10

Who may be the control operator of an auxiliary station?

A. Any licensed amateur operator
B. Only Technician, General, Advanced, or Amateur Extra class operators
C. Only General, Advanced, or Amateur Extra class operators
D. Only Amateur Extra class operators

E1F11

Which of the following best describes one of the standards that must be met by an external RF power amplifier if it is to qualify for a grant of FCC certification?

A. It must produce full legal output when driven by not more than 5 watts of mean RF input power
B. It must have received an Underwriters Laboratory certification for electrical safety as well as having met IEEE standard 14.101(B)
C. It must exhibit a gain of less than 23 dB when driven by 10 watts or less
D. It must satisfy the FCC’s spurious emission standards when operated at the lesser of 1500 watts or its full output power

Super Fox Update : RC7
By Jim Wright, N2GXJ

Back in the September 2024 edition of your Club's CrossTalk, we offered an introduction to FT8's Super Fox mode, along with some first impressions of the then current "release candidate" version of software as used with the N5J Palmyra & Jarvis DX expedition. Since then, there have been a few improvements to the software, now in its 7th release candidate version, RC7. As of this writing, RC7 is now the minimum version needed to use Super Fox mode with current DX expeditions, such as S9Z Sao Tome & Principe. Looking forward, at some point this capability will get folded into a general availability (GA) release of WSJT, but until then, if want to use this mode, you'll have to use a release candidate that is under development ahead of the next GA update.

For me, the biggest challenge to overcome at first when using the Super Fox mode was getting a decode of the Fox. In case others are having some problem with this as well, here are some hints that helped me while chasing S9Z that you might find useful too.

Hints pertain to how to recognize the Super Fox signal, and how to configure the WSJT software.

For recognizing hints, as described back in the September article, the Fox's signal won't look like your narrow-band FT8 signal when they are using the Super Fox mode. **Refer to Figure 1**. Here we see a wide band waterfall display with labels pointing to the "traditional" FT8 traffic at 14.074 MHz, the "traditional" FT4 traffic at 14.080 MHz, and to the Super Fox S9Z and Super Hound signals calling S9Z at 14.091 MHz. Note how the transmission from the Super Fox and the transmissions from all of us Super Hounds looks quite different from each other.

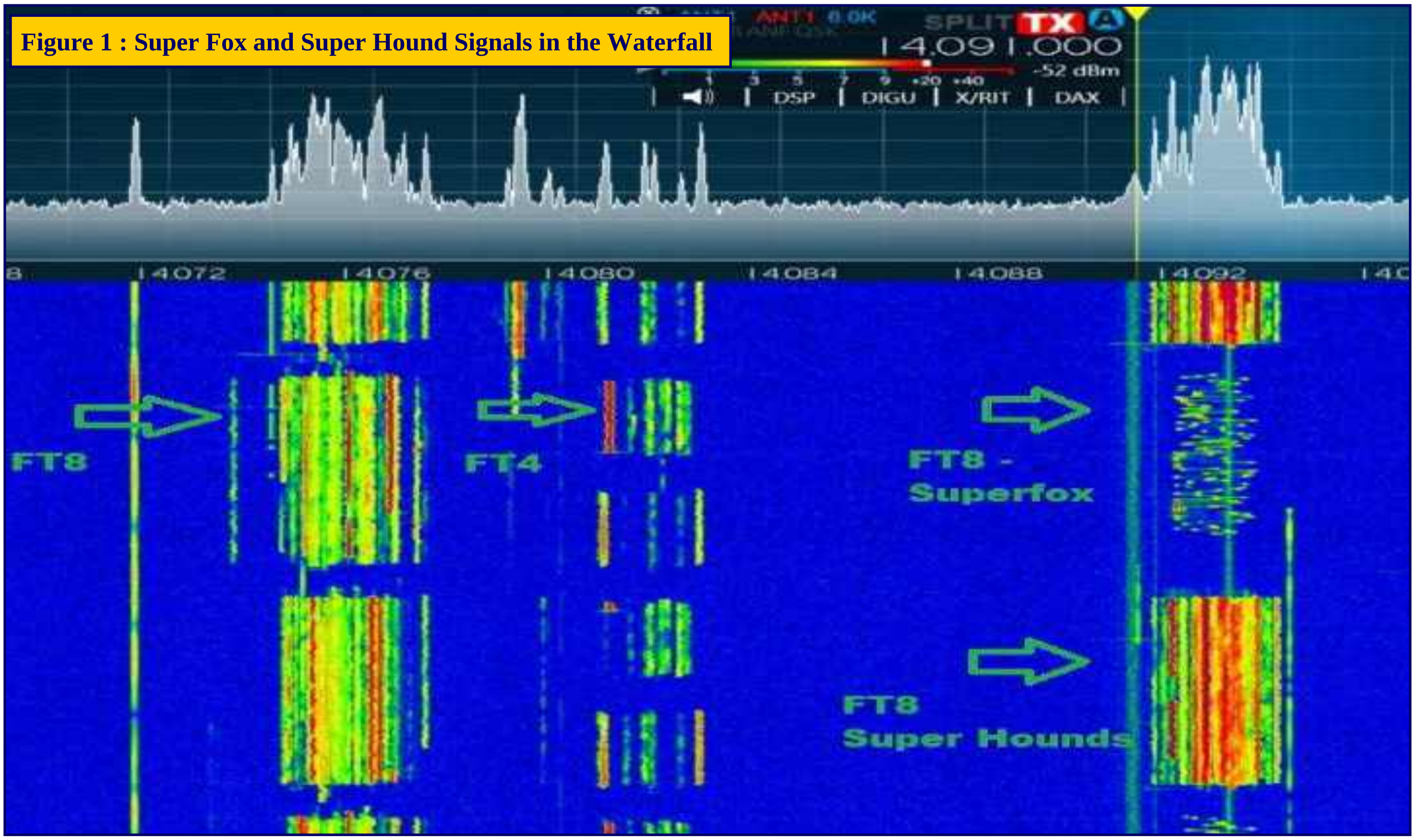


Figure 1 : Super Fox and Super Hound Signals in the Waterfall

Super Fox Update - Continued on page 29

Super Fox Update - Continued from page 28

In the example of **Figure 1**, the receive Fox signal was quite strong +14 dB, and is easy to see visually on the waterfall. However you're not always going to be so lucky. At lower receive dB levels, like -14 dB, I could not visually see the Fox's signal in the waterfall display during its interval between when the Hounds were barking. Still, the software was often still be able to decode it.

So how to get the decodes? That required some configuration hints. **For configuration hints, please refer to Figure 2**. In this figure you'll see numbered green arrows added pointing to portions of the WSJT window that you can follow along with in this description.

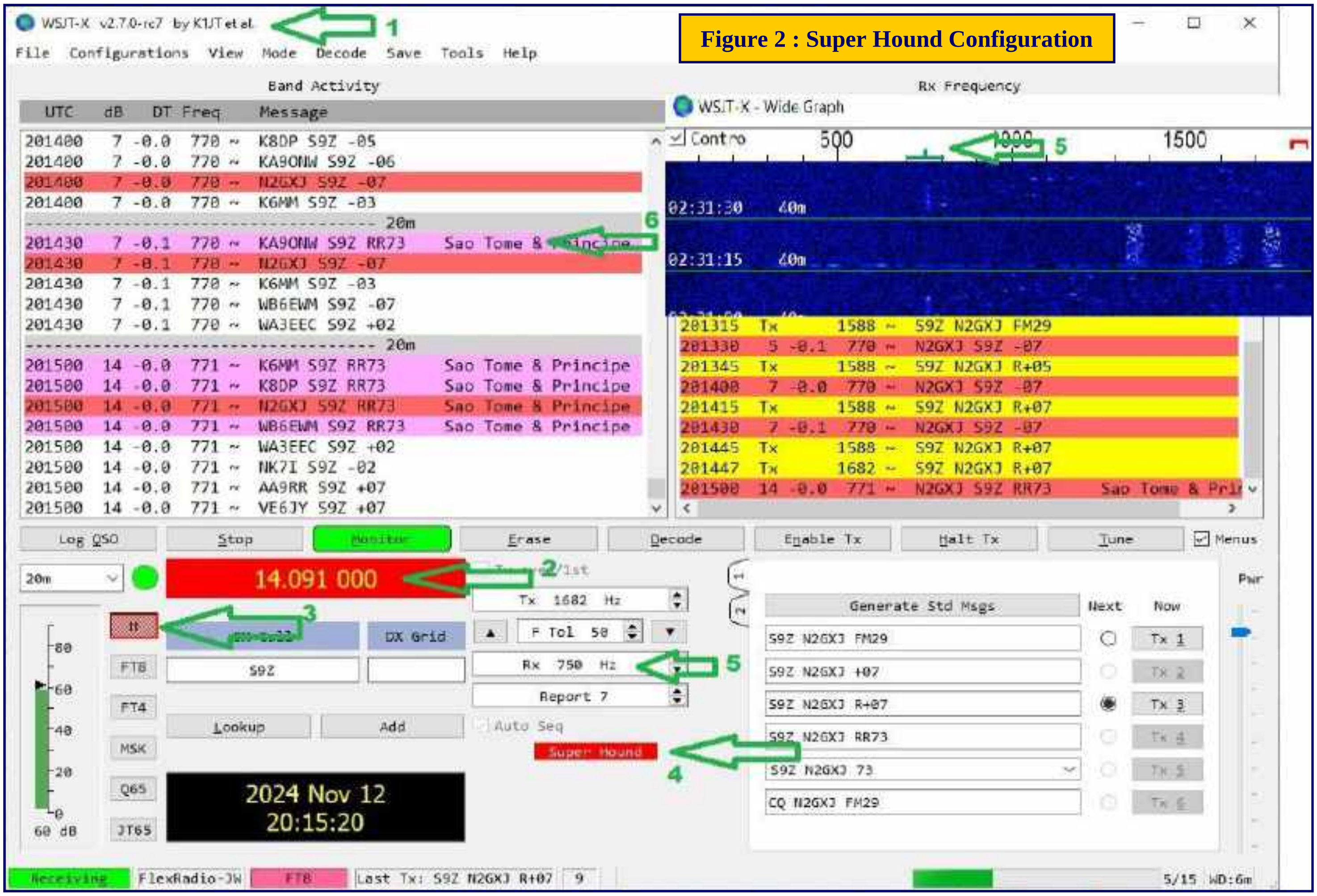


Figure 2 : Super Hound Configuration

```
UTC    dB  DT Freq    Message
201400  7 -0.0  770 ~  K8DP S9Z -05
201400  7 -0.0  770 ~  KA9ONW S9Z -06
201400  7 -0.0  770 ~  N2GXJ S9Z -07
201400  7 -0.0  770 ~  K6MM S9Z -03
------------------------------------ 20m
201430  7 -0.1  770 ~  KA9ONW S9Z RR73    Sao Tome & Principe
201430  7 -0.1  770 ~  N2GXJ S9Z -07
201430  7 -0.1  770 ~  K6MM S9Z -03
201430  7 -0.1  770 ~  WB6EWM S9Z -07
201430  7 -0.1  770 ~  WA3EEC S9Z +02
------------------------------------ 20m
201500 14 -0.0  771 ~  K6MM S9Z RR73      Sao Tome & Principe
201500 14 -0.0  771 ~  K8DP S9Z RR73      Sao Tome & Principe
201500 14 -0.0  771 ~  N2GXJ S9Z RR73     Sao Tome & Principe
201500 14 -0.0  771 ~  WB6EWM S9Z RR73    Sao Tome & Principe
201500 14 -0.0  771 ~  WA3EEC S9Z +02
201500 14 -0.0  771 ~  NK7I S9Z -02
201500 14 -0.0  771 ~  AA9RR S9Z +07
201500 14 -0.0  771 ~  VE6JY S9Z +07
```

```
201315  Tx        1588 ~  S9Z N2GXJ FM29
201330   5 -0.1    770 ~  N2GXJ S9Z -07
201345  Tx        1588 ~  S9Z N2GXJ R+05
201400   7 -0.0    770 ~  N2GXJ S9Z -07
201415  Tx        1588 ~  S9Z N2GXJ R+07
201430   7 -0.1    770 ~  N2GXJ S9Z -07
201445  Tx        1588 ~  S9Z N2GXJ R+07
201447  Tx        1682 ~  S9Z N2GXJ R+07
201500  14 -0.0    771 ~  N2GXJ S9Z RR73     Sao Tome & Pri
```

20m
14.091 000
Tx 1682 Hz
F Tol 50
Rx 750 Hz
Report 7
S9Z
2024 Nov 12
20:15:20

S9Z N2GXJ FM29 ○ Tx 1
S9Z N2GXJ +07 ○ Tx 2
S9Z N2GXJ R+07 ● Tx 3
S9Z N2GXJ RR73 ○ Tx 4
S9Z N2GXJ 73 ○ Tx 5
CQ N2GXJ FM29 ○ Tx 6

Receiving | FlexRadio-JW | FT8 | Last Tx: S9Z N2GXJ R+07 | 9 | 5/15 WD:6m

Hint #1 Software Version : I used to have RC6 version loaded, which did not work right with S9Z. I needed to upgrade the RC to RC7 (v2.7.0-rc7) to get a QSO with S9Z when using this mode. As of this writing, you can find the latest RC version available where the GA version is posted at : **https://wsjt.sourceforge.io/wsjtx.html**

Hint #2 Radio's Frequency : I found out that your radio's dial frequency is very important, more so than with standard FT8. It has to be same as what the DX expedition is using. For example, I had it on 14.090 MHz, and got no decodes. That is when I saw on spotting network that they listed 14.091 MHz as their frequency. Changing the radio to 14.091 MHz helped place the green color "upside down letter T" at the top of the waterfall to the left edge of the Fox's transmissions, and decodes followed after that. **More on that in Hint #5**.

Super Fox Update - Continued on page 30

Super Fox Update - Continued from page 29

Hint #3 Hound Button : You have to click this radio button and turn it red to get in Hound mode. But that is not enough! Hound and Super Hound modes are not the same. So how do you change from Hound mode to Super Hound mode? Take a look at **Label #4**. The text here will tell you if you are in Hound mode, or Super Hound mode ***(as shown)***. To toggle between Hound and Super Hound mode, you hover your mouse over the "H" Hound button and then right click on your mouse.

Hint #5 RX Offset : When the RX audio offset is set to 750 Hz, the green color "upside down letter T" that now appears above the WSJT waterfall display in Super Hound mode appears centered on 750 Hz. If the Fox signal is visible in the waterfall display, you can see that this 750 Hz aligns with the left edge (lowest audio offset) of its signal. Decodes from the Fox suddenly started appearing for me in the left side decode window after I got this right. You can increase the "F Tol" value (located just above the **Label #5** on the WSJT marked up display) to compensate for the Fox's signal not be left aligned exactly to the 750 Hz offset, but generally I've not had to do that with S9Z.

Hint #6 Enable Transmitting in Super Hound Mode : The last trick was for how to enable being able to transmit. Turns out transmit is not enabled by default until after you have a decode and click on it. Here's how I found this out. I was used to simply tapping the "tune" soft button on the WSJT window to enable a transmission that could then be used to check to see if I had good SWR at the tuned frequency. That no longer worked with the RC7 version. Turns out, the RC7 version requires you to be able to double click on any one of the Fox's single decodes before the software will allow you to transmit. Until you do that, the "tune" button is disabled.

Well, there you go. Hope these hints offer some usefulness to you. If you have some tips to share on how to get better Super Hound mode decodes, please do share! Good luck and good DX to all!

It Is Never To Early To Renew Your Membership Dues!

You Can Pay Your Membership Dues Using Cash, Check, Credit Card :

- **Pay your dues using our Pay Dues Here webpage**
- **Bring your money to a General Membership Meeting**
- **Bring your money to a Tech Saturday Forum**
- **Bring your money to any Saturday @ the W2MMD Clubhouse**
- **Send your check in to our PO Box 370**

Gloucester County Amateur Radio Club
PO Box 370, Pitman, NJ 08071

The membership dues are :

- **$30.00 - Full Membership (Plus an Optional Donation)**
- **$15.00 - Family Membership**
- **$25.00 - Associate Membership (Plus an Optional Donation)**

March 31, 2025 is the deadline to renew your membership dues

Regional Skywarn Websites For On-Line And In-Person Training Classes

Philadelphia/Mt Holly Skywarn : www.weather.gov/phi/skywarn
State College, PA Skywarn : www.weather.gov/ctp/skywarn
Pittsburgh, PA Skywarn : www.weather.gov/pbz/skywarn

Saturday, December 7, 2024 @ 0000 to 2359 Hours UTC
https://www.weather.gov/crh/skywarnrecognition
https://www.facebook.com/groups/srd2021

SKYWARN™ Recognition Day was developed in 1999 by the National Weather Service and the American Radio Relay League. It celebrates the contributions that SKYWARN™ volunteers make to the NWS mission, the protection of life and property. Amateur radio operators comprise a large percentage of the SKYWARN™ volunteers across the country. The Amateur radio operators also provide vital communication between the NWS and emergency management if normal communications become inoperative. All SKYWARN™ spotters provide critical weather information before, during and after adverse weather strikes. This includes reports of rain and snow, ice and wind, storms and tornadoes, flooding and fire. This is our 24 hours to recognize all of the SKYWARN™ spotters serving our nation!

Weather Information Nets & Frequencies

Hurricane Watch Net : www.hwn.org

- **Day Time : 14.325 MHz**
- **Night Time : 7.268 MHz**
- **Information : 14.300 MHz**

Local SKYWARN Frequencies :

- **Atlantic County : K2BR, 146.745 MHz (-) 146.2 Hz**
    - ◊ **Net Every Monday @ 1900 Hours**
- **Camden County : K2EOC, 146.895 MHz (-) 91.5 Hz**
    - ◊ **Net Every Thursday @ 2030 Hours**
- **Cumberland County : KE2CK, 146.805 MHz, (-) 118.8 Hz**
    - ◊ **Net Every Monday @ 1930 Hours**
- **Gloucester County : W2MMD, 147.180 MHz (+) 131.8 Hz**
    - ◊ **Net Every Sunday @ 1930 Hours**
- **Salem County : N2KEJ, 146.625 MHz (-) 131.8 Hz**

Club Merchandise from the K2ZA Workshop
Contact John Zaruba Jr, K2ZA at k2za@icloud.com
Go To : https://gloucestercountyarc.weebly.com/club-merchandise.html

Jersey String Band Report For December 2024

By Glenn Dougherty, N2YIO

The String is working on finalizing and fine tuning their Theme for 2025. We now have the title, it is ***The Spy That Mummed Me***. A couple of the songs we will be playing or parts of them are ***The Pink Panther Theme*** and also ***The Mission Impossible Theme***. It should be a very good show. We will be marching 2nd this year so we should be on TV on Me TV or Ch 69 WFMZ between 2:10 and 2:20 pm New Years Day.

We do have a few parades in between twice a week practicing coming up to finish out the year. On November 30th, we will be doing two parades. At 1 pm we will be in the Swedesboro Christmas Parade, then we take a bus ride up to Millerstown, PA. for an evening parade. Then on December 7th we finish out our parade schedule with two more. We will be in Salem in the afternoon and then travel to West Cape May for their very nice parade starting at 6 pm.

Well that is it for this year! We are hoping to move up from our last place finishes in the last four New Years Day Parades. This is officially the Band's 6th year as a String Band and our 2nd year as part of the Philadelphia Mummers String Band Association. So we are hoping for the best, but no matter where we finish, if we put a smile on one persons face, we did what we came to do, entertain.

73, and Merry Christmas and a Happy New Year To All The Members Of The Club!

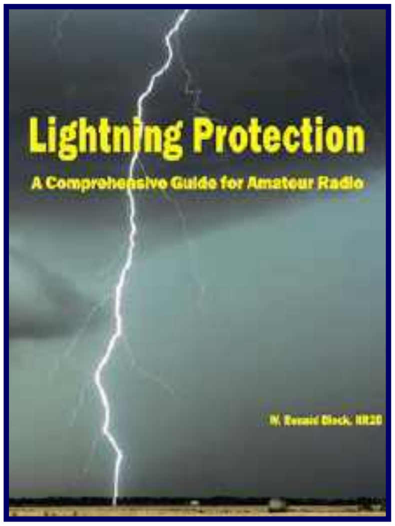
Check out our YouTube channel : **https://www.youtube.com/@JerseyStringBand**

Full Cold Moon : Sunday, December 15, 2024 @ 0402 Hours

A name used by the Mohawk people, this Moon occurs when winter cold fastens its grip. Other names that allude to the cold and snow include Drift Clearing Moon (Cree), Frost Exploding Trees Moon (Cree), Moon of the Popping Trees (Oglala), Hoar Frost Moon (Cree), Snow Moon (Haida, Cherokee), and Winter Maker Moon (Western Abenaki). Long Night Moon is a Mohican term; Mid-Winter Moon, Lakota and Northern Ojibwe. Other names include Moon When the Deer Shed Their [Antlers] (Dakota) and Little Spirit Moon (Anishinaabe).

Old Farmer's Almanac - www.almanac.com

Lightning Protection :
A Comprehensive Guide for Amateur Radio
Author : W. Ronald Block, NR2B
Contact : ron@wrblock.com
Website : www.wrblock.com



Antenna Rotator Controller Build - Part 2

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

The next control up for discussion is the ***PRESET*** control. This device is a rotary encoder with an incorporated ***SPST*** switch, which is activated by pressing in on the control knob. The encoder is a PEC11-type having thirty detents per revolution and producing fifteen pulses per revolution. Because of the nature of rotary encoders, the direction in which the control has been rotated is readable by the software. The basic K3NG firmware release has this encoder's output producing a turning motion of one-half of a degree per pulse. This is defined in the ***rotator_settings.h*** file at Line 178, which reads **“#define** AZ_POSITION_ROTARY_ENCODER_DEG_PER_PULSE **0.5”** which can be modified, as I did, to a more useful value. I set this value to 2.0 degrees per pulse.

Here is what all of that is about. When setting a preset position for the antenna, the procedure is to dial in the azimuth desired by rotating the encoder control knob. While a setting of 0.5°/pulse gives high resolution, it also means that it will take much more spinning of the knob to reach a given value. Suppose, for example, that the antenna is currently aimed to an azimuthal direction of 180°, or due south. If you want to change that to 0° (due north), it will take 360 pulses at the standard degrees per pulse value setting. With the encoder producing 15 pulses per revolution, it will take 360/15 or twenty-four full turns of the encoder knob to dial in that preset position. By changing the value to 2°/pulse, we now have the ability to traverse the 180° of antenna rotation in only six turns of the encoder. That is because the new setting gives us 30° of antenna rotation for each full rotation of the encoder knob or shaft. With a desired change of 180° in antenna position, and 30° of antenna swing per turn of the encoder knob, we get six turns instead of twenty-four turns to achieve a 180° antenna direction change. That makes perfect sense, seeing as how the rate is four times as fast with the new setting. There is one small drawback to this setting, in that the finest antenna position resolution is now two degrees instead of one-half of a degree. If that is objectional, a fair compromise would be to set the ***degrees per pulse*** setting to ***1.0***, which would double the original rate but still give a resolution of one degree.

Once the desired azimuthal angle is dialed into the controller display window, simply press the encoder knob inward on the panel to initiate the movement of the antenna. The antenna will begin rotating to its new position, will slow down when approaching the set position, and will stop when it gets there.

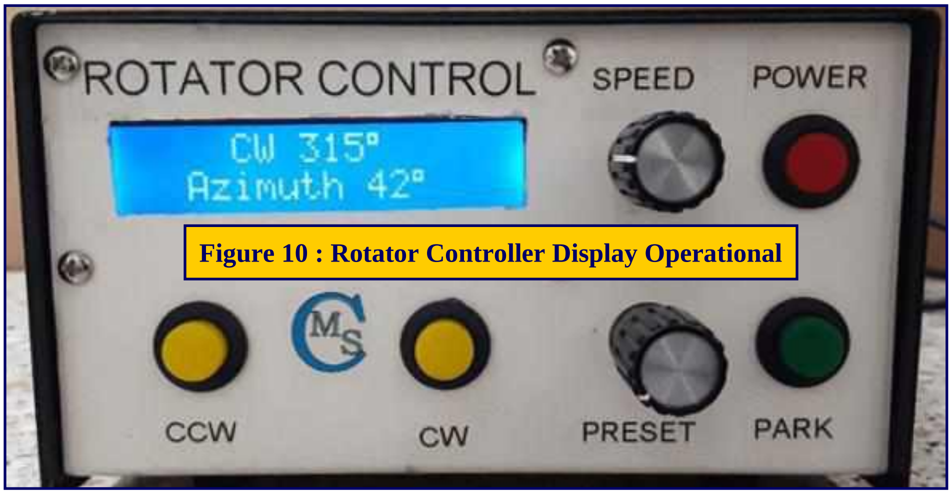


Figure 10 : Rotator Controller Display Operational

The ***SPEED*** control on the front panel is a 100kΩ single-turn linear potentiometer used to set the maximum rotational speed of the antenna while the motor is turning. Rotating this control imposes a proportional voltage on the Arduino port A1, which is read by the µC software and used to control the speed in accordance with that proportional voltage input.

The ***front panel display (Figure 10)*** will show three basic pieces of information, the current azimuthal direction in degrees and cardinal compass directions, the target azimuthal angle in degrees, and the direction of motion, either clockwise (***CW***) or counter-clockwise (***CCW***). Once antenna rotation is complete, the display will revert to a simple ***“Azimuth xxx°”*** display, possibly with a cardinal compass direction above it. The display unit is a white-on-blue backlit LCD panel having a 16x2 character by row format. While other LCD panel colors are available, I find the white-on-blue to be the easiest on the eyes, which is why I chose that particular unit.

Antenna Rotator Controller Build - Continued on page 34

Antenna Rotator Controller Build - Continued from page 33

The LCD panel contrast is adjustable via a trimmer potentiometer mounted to the Arduino shield board. In this case, the trimpot is a Kyocera 601040 100kΩ miniature top-adjust potentiometer. It is connected with one end at +5VDC, the opposite end to ground, and the wiper is tied to the V_O pin of the LCD panel, pin 3.

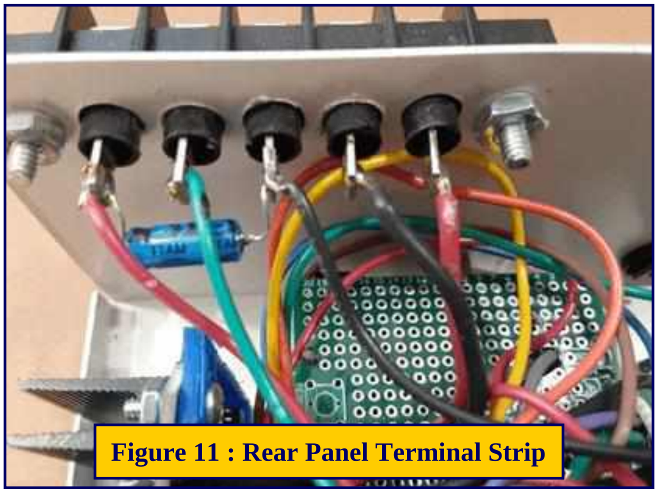


Figure 11 : Rear Panel Terminal Strip

Power entry at the rear of the controller enclosure is made via a 5.5mm x 2.1mm coaxial DC power jack with its center pin being the positive side of the circuit. The positive lead is routed to the front panel POWER switch, and then from there to the H-bridge board's BAT+ pin, and also to the +5VDC supply (voltage regulator) board's power input pin. The negative lead is connected to the H-bridge board's BAT- pin and also to the voltage regulator board's ground input pin.

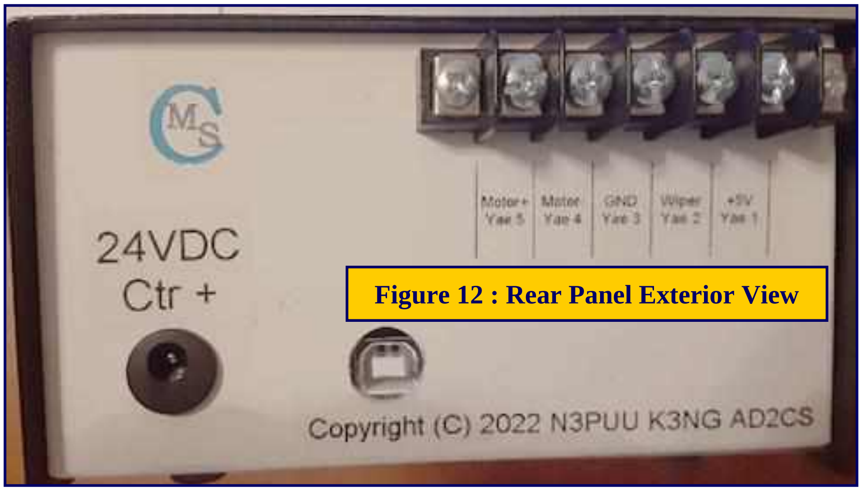


Figure 12 : Rear Panel Exterior View

The voltage regulator's +5VDC output is routed to the VIN port on the Arduino shield, and the ground side of the voltage regulator board is connected to the GND port on the Arduino shield board.

Provision is made on the enclosure rear panel for a USB connection to the Arduino Mega 2560 board, necessary for ***CAT*** control of the antenna rotator. The enclosure rear panel also carries a ***Molex 38721-6705 five-terminal barrier-type terminal strip (Figure 11)*** with turrets on the inside of the controller. This terminal strip is the communications point between the controller and the rotator motor. Two of the terminals are used by the motor power leads, while the remaining three are tied to the rotator unit's position-sensing potentiometer. A 4.7µF 50V axial aluminum electrolytic capacitor is installed between the +5VDC terminal (***Terminal 1***) and the GND terminal (***Terminal 3***) on the terminal strip inside the enclosure.

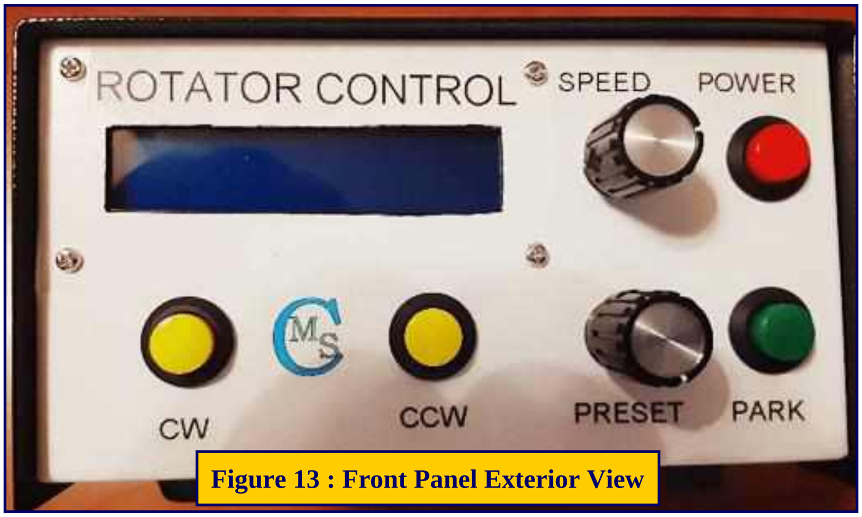


Figure 13 : Front Panel Exterior View

The enclosure is a two-piece black steel over white aluminum sheet metal assembly, part number 208911 from ***Jameco Electronics***. It includes ventilation openings in both sides of the upper half of the enclosure. Most of the labeling of this project was handled through the use of black-on-clear printed labels produced by my Dymo Rhino 5200 label printer. The exceptions are the CMS logos on the ***rear and front panels (Figures 12 & 13)***, which are water-slide decals printed on my color laser printer.

Antenna Rotator Controller Build - Continued on page 35

Antenna Rotator Controller Build - Continued from page 34

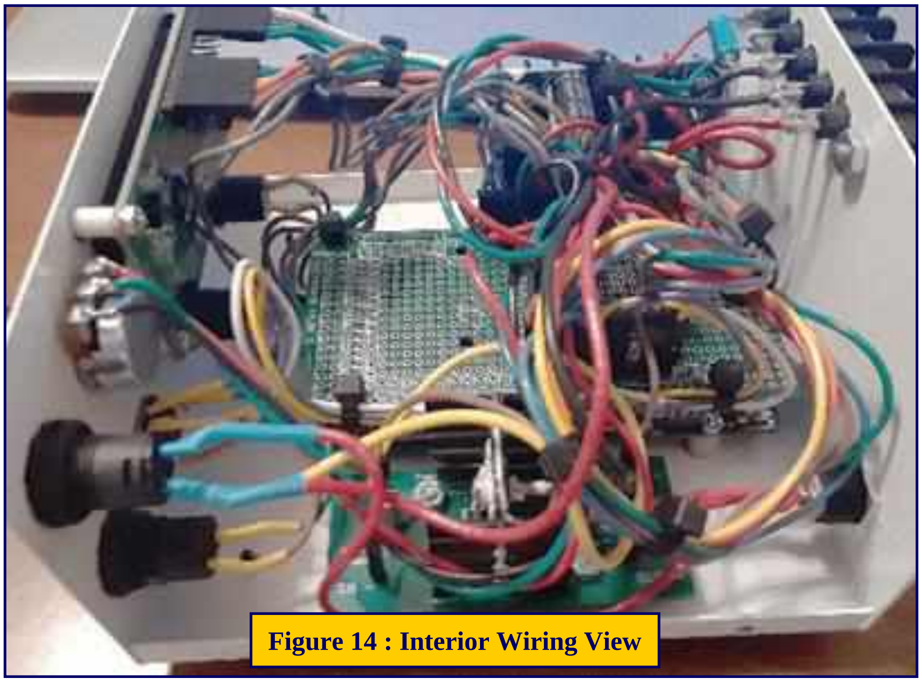


Figure 14 : Interior Wiring View

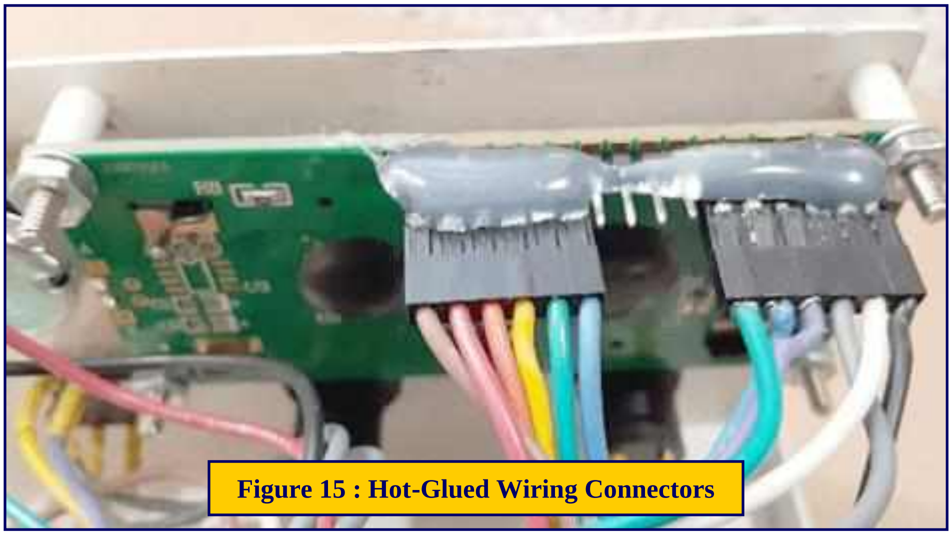


Figure 15 : Hot-Glued Wiring Connectors

The Arduino Mega 2560 and its accompanying shield board are secured to the floor of the enclosure via 4-40 hardware and tubular spacers, as is the voltage regulator PCB. The custom 3D-printed H-bridge board bracket is also mounted to the floor of the enclosure, being placed directly on the floor and being secured by 4-40 machine screws with hex nuts and lock washers. The LCD panel is secured to the front panel with 4-40 hardware and tubular spacers.

Most of the ***interior wiring (Figure 14)*** is made up of 22AWG stranded hook-up wire with crimped-on terminals to fit the header pins. While this could easily have been done using off-the-shelf Berg or DuPont wires with female connectors, the quality of many of those wires is sketchy at best. As I have the terminals, housings, wire, and crimper all on hand, it was a simple and natural decision to “roll my own” wires. This had the added advantage that I could make each wire in the color and length that I wanted, and I could assemble many of the wires that connected to adjacent pins into single multi-pin plugs. That alone made it much easier and neater to wire things up. However, for added security, I also chose to hot-glue (***Figure 15***) many of these wire connectors into place once they were all connected properly and the unit was tested.

I mentioned earlier that I have built two copies of this controller, and so I did. The first one that I had built was placed on loan to the GCARC Clubhouse for temporary use in the VHF room. I soon decided to make that loan a permanent donation, which is why I ended up building a second copy of the unit. While they were originally carbon-copies of each other, I have since made some modifications to the controller at the Clubhouse.

One day, during a re-calibration of the controller, the unit went blank, and then started displaying gibberish and impossible values on the LCD panel. I initially thought that what was needed was a simple reload of the operating software to the microcontroller. I hooked the unit up to my laptop USB port and copied the software in successfully, but that did not solve the problem. The unit still booted up to gibberish, and then began showing azimuth angles in the four- and five-digit range. I next brought the unit to my shop, opened it up, and found that the only thing wrong was that the firmware/software in the µC had been corrupted at the bootloader level. I stripped out the Arduino shield so that I could get to the ICSP programming header, burned a new bootloader to the board, and then re-installed the software.

Antenna Rotator Controller Build - Continued on page 36

Antenna Rotator Controller Build - Continued from page 35

This time, it was successful, and the unit operated as it should, and I did a successful calibration of the unit. I returned it to the Clubhouse, putting it back into service.

A week later, the same problem occurred, again during another attempted re-calibration. Again, I brought it home and stripped it down to the Arduino so that I could once again burn a new bootloader to the µC. Again, the repair took and the unit worked properly, ***and I was able to calibrate it with no problem***. Naturally, I brought it back to the Clubhouse and placed it back into service.

Once again, the same problem occurred. This time, I decided to do something just a little bit differently. I completely disassembled the unit, removing the Arduino Mega 2560 from the unit. I then de-soldered and removed the ICSP header, replacing it with a six-position pin socket of the same configuration. Next, I added a set of long header pins to the shield board in alignment with the pin socket on the Arduino board, in such a manner that the pins would mate into the new pin socket when the shield was installed back onto the Arduino, and that the upper ends of these six pins were available to be used as a pass-through ICSP header on the shield. I re-assembled everything, and then tested the job by burning a new bootloader through the new ICSP header pins, and then afterwards installing the software through the USB in the normal manner. My reasoning was that while I did not know why the calibration process was corrupting the boot loader, at least I could re-burn the bootloader without having to disassemble the boards to get access to the ICSP header.

I returned the unit to service, and this time I assisted in the calibration process. For whatever reason, this time the calibration went off without any problems. That unit is still operating there at the Clubhouse as it was designed to do.

The reason that I mention all of this is that it points out a valid modification that any builder might want to make to the Arduino Mega 2560 and the shield board. It is probably a good idea to make the ICSP header accessible by simply removing the controller cover, and without the need to disassemble the unit any further.

The software for this controller is readily available online - just Google ***"K3NG rotator controller"*** to find it. Modify the ***rotator_pins.h*** file as necessary in accordance with the file notes, and also modify the ***rotator_settings.h*** file of you want to change the encoder resolution. The ***Arduino IDE*** software is required for compiling and uploading the programming to the Arduino Mega 2560. This software is available online at no charge.

Take your time with the wiring to ensure proper connections of the various Arduino ports with their associated inputs and/or outputs. Also, take your time with making the necessary openings in the enclosure panels to get the best possible appearance. The large opening for the LCD panel was made by drilling a series of adjacent holes, cutting away the waste between the holes, and then filing the opening to size with the aid of a piece of square metal-lathe bit stock clamped along the openings, one at a time, in turn around the opening. The file will cut the aluminum, but will glide right over the tool steel bit stock, leaving a nice clean edge and a squared-off opening. This tip, too, was thanks to ***Frank Romeo N3PUU***. He is a wealth of information!

All of the other openings cut in the enclosure panels were simple round holes, easily drilled. However, there is another tip worth mentioning, which I use regularly when I am drilling holes of more than about an eighth of an inch in diameter into sheet metal on the drill press. Take a square of old cotton cloth, e.g., a scrap from an old tee shirt, about two inches on each side. Center-punch the hole center lightly. Then, fold the cloth scrap in half twice, producing a four-ply cloth stack about an inch square. Place the folded cloth scrap over the hole location, and hold the cloth in place while you start the drill motor. Bring the twist drill bit down onto the cloth and then, using light pressure, drill through both the cloth and the sheet metal.

Antenna Rotator Controller Build - Continued on page 37

Antenna Rotator Controller Build - Continued from page 36

The result will be a nice round and clean hole in the sheet metal, without any grabbing of the metal by the twist drill and therefore no spinning of the metal in the drill press. I use this trick quite often - it works every time.

While step drill bits will also make round holes without the grabbing and spinning, the hole diameter selection from a step bit is nowhere near as wide as the offerings of my entire half-inch drill index. Another advantage of this tip is the fact that there will usually be little or no burr around the hole on the back side of the metal sheet. When using this tip, cut and fold a new scrap of cloth for each hole that you drill.

Any way you look at it, this project was one that was well worth taking on. I enjoyed the build process both times. I have not yet added the ICSP header to the copy of the controller in my shack, but if I ever need to open up the controller to reload the software, I will make the modification at that point in time.

Calibration of the unit is necessary to synchronize the display to the actual azimuthal angle of the antenna. This is easily done through the use of the ***PuTTY*** software package. ***PuTTY*** will launch a terminal window that is in communication with the controller. We start by issuing a ***“C”*** command to the controller, which returns the current azimuthal angle. The controller then prompts the user to manually rotate the antenna fully clockwise, after which the ***“F”*** command is sent to the controller. That command causes the controller to store the fully clockwise position on non-volatile memory, after which the user issues the ***“O”*** command. The controller now prompts the user to manually rotate the antenna fully counter-clockwise. With the antenna fully counter-clockwise, the user presses the ***“ENTER”*** key to store the offset into non-volatile memory and complete the calibration process. In order to properly synchronize the calibrated controller to the antenna, the assembly should be so mounted that when the controller is at its zero-degree (0°) position, the antenna is pointing due north. In this circumstance, the zero-degree and fully clockwise position should then coincide at due north. The controller provides for an additional half-turn of azimuthal overlap in its control capability, as does the Yaesu G-800 rotator motor. The main ***PuTTY*** user interface and its ***“About PuTTY”*** window are shown in ***Figure 16***.

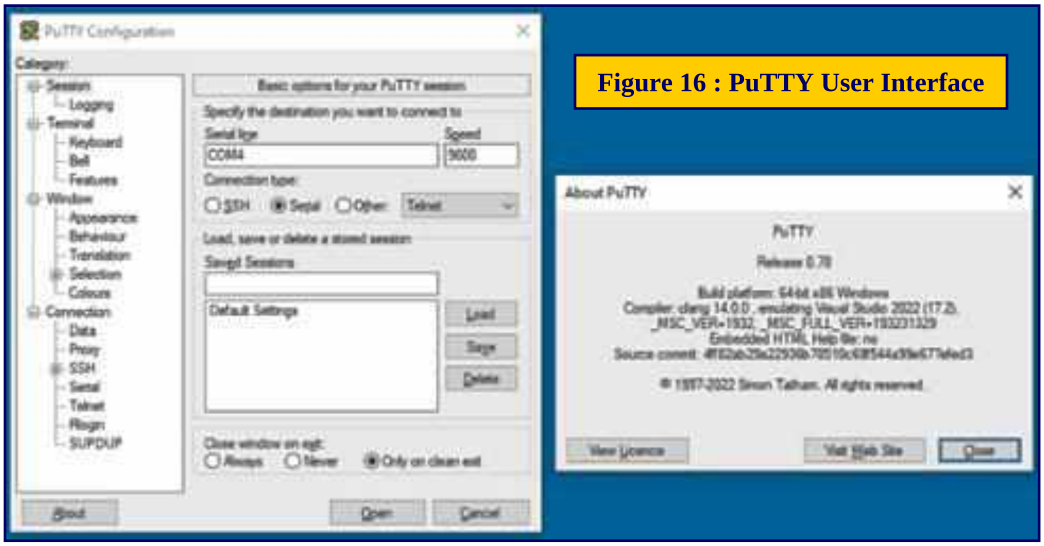


Figure 16 : PuTTY User Interface

PuTTY Configuration

Basic options for your PuTTY session

Specify the destination you want to connect to

Serial line: COM4

Speed: 9600

Connection type: ○ SSH ● Serial ○ Other: Telnet

Load, save or delete a stored session

Saved Sessions

Default Settings

Close window on exit: ○ Always ○ Never ● Only on clean exit

About PuTTY

PuTTY

Release 0.78

Build platform: 64-bit x86 Windows
Compiler: clang 14.0.0, emulating Visual Studio 2022 (17.2), _MSC_VER=1932, _MSC_FULL_VER=193231329
Embedded HTML Help file: no
Source commit: [illegible]

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PuTTY is readily available online as freeware under the MIT open-source license, and is downloadable both as executables and as source code. Executables are available for 32-bit versions and both Arm and x86 64-bit versions of Windows MSI installers, as well as being offered as a Unix source archive. As of the time that this is being written, the current version of ***PuTTY*** is version 0.78, which was released on 29 October 2022. The current version of ***PuTTY*** can be downloaded at **https://www.chiark.greenend.org.uk/~sgtatham/putty/latest.html** at any time.

Antenna Rotator Controller Build - Continued on page 38

Antenna Rotator Controller Build - Continued from page 37

A commonly-used PC interface for controlling the antenna rotation is a nice piece of software called ***PST Rotator***. Because I do not have an elevation component to this rotator, I use the ***PST Rotator AZ*** version of the software (***Figure 17***). This software is extremely useful and flexible, and it also includes an interface for fine-tuning the antenna offsets. Several presets can be defined and then the antenna can be swung to those points at a single click of the mouse. While not free, the cost is very reasonable and well worth the few dollars charged. I recommend this software to anyone using automated antenna rotation systems. It plays quite nicely with most radio CAT systems.

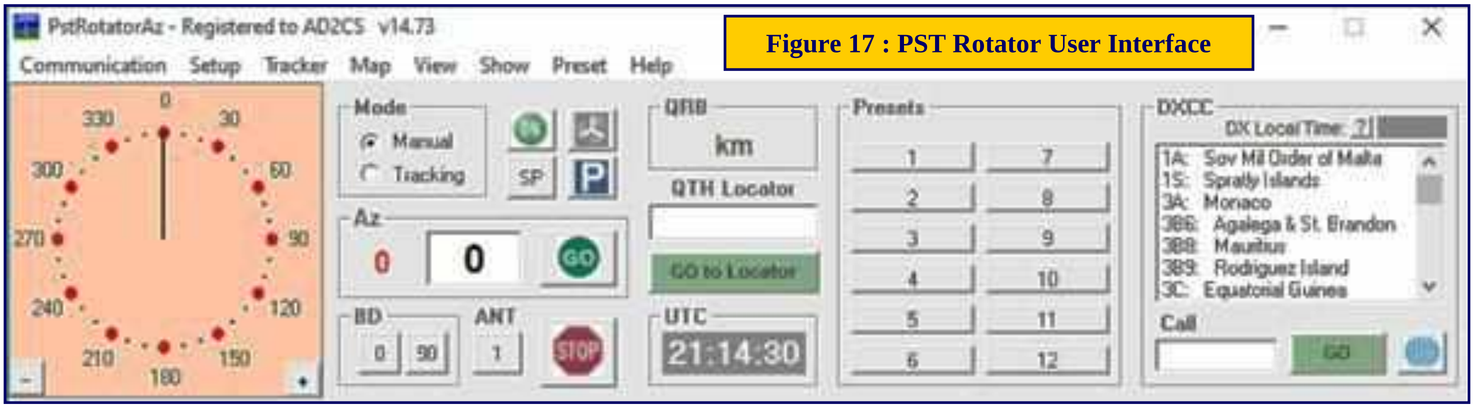


Figure 17 : PST Rotator User Interface

I am happy with the results of this project, in both of its completed devices. Even if the basic design is not my own, and even if I copied the construction details of the unit that Frank had built, enough of my own work went into this project that I do not feel ashamed in writing it up. The idea is to encourage others who may need such a controller to home-brew one as I did. Feel free to copy my work… it is freely shared as was the work of those who went before me. It should also be noted that in my labeling of the unit, where I usually indicate that the device is a product of my shop, this time I also gave props to both ***N3PUU*** and ***K3NG***, as is only right.

Feel free to reach out to me with any questions or for help with any aspect of the build of this rotator controller.

December Is YOTA Month!

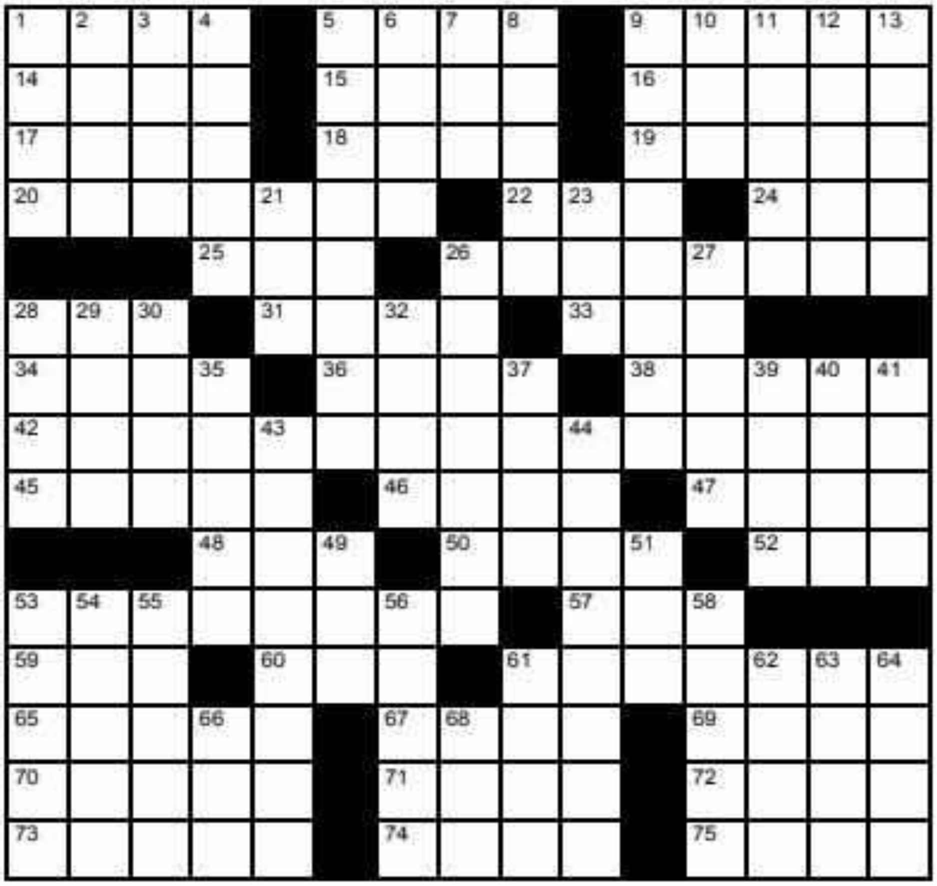
The entire month of December several youngsters will become active with YOTA as suffix in the callsign. The idea for this is to show the amateur radio hobby to youth and to encourage youngsters to be active on the ham radio waves. Feel free to make a QSO with the youngsters, they are happy to get some attention and exchange information. Licensed and unlicensed youth will be making QSOs, be aware this could be their first radio contact ever and give them a chance to experience a possible new hobby.

https://events.ham-yota.com

Monday & Thursday Night 40 Meter Net @ 1930 Hours
7.225 MHz (+ / - 5 or 10 kHz)
NCS : Jim Clark, KA2OSV

by Chris Codella, W2PA 9/7/2009

Spot Not



Crossword Puzzle courtesy of https://www.w2pa.com/Home/articles/crossword-puzzles

Across

1. Eight furlongs

5. Propagation predictor, with solar

9. Early ham technology

14. 7700 maker

15. Network, especially in I-land

16. Blender setting

17. Solar WX org.

18. Kit maker of the 1960s

19. Poem of lament

20. Propagation predictors, with 58 down

22. OX dir. from XE

24. Formerly known as

25. Chop (off)

26. Solar minimum result

28. Fed. fiscal agency

31. "Encore!"

33. 144 MHz

34. Phoned

36. Deteriorates

38. Post det. stage

42. Hams eagerly await it

45. 1970s sat.

46. Garbage barge

47. "I'm ___ your tricks!"

48. Checks in check ins

50. Calls from NJ or NY

52. What some amateurs are, professionally

53. The 2009 sun, mostly

57. W7 ARRL sect.

59. 440 MHz region, say

60. Prefix, opposite of 63 down

61. Early receiver maker

65. Wanderer

67. Generate RF sig.

69. Handle

70. Nonsensical

71. Tropospheric propagation path

72. Connectors with shells

73. FD abodes

74. Ckts. for CW

75. Put in stitches

Down

1. Subcompact

2. Desktop feature

3. PA front panel label

4. In-box contents

5. C6 city

6. KH6 rings

7. GMT replacer

8. Veracruz prefix

9. Indy place

10. YA cent

11. Hara, for example

12. Superhet alternative

13. Sent CW

21. It may follow a dot

23. ___ King Cole

26. Picks up, on the air

27. Fab

28. Shamu, for one

29. W0 Clinic

30. Locking connectors

32. Column crossers

35. Sparkle

37. KC4 WX

39. Code for code

40. Receiver rear panel label

41. Con cons

43. Rules out

44. 33 dBm

49. K7UGA, once: Abbr.

51. Ant. measurement

53. 56 down measurement

54. Second SS weekend

55. GD isle

56. See 53 down

58. Types of 20 across

61. Micro micro

62. Antenna measurement

63. Prefix, with directional

64. What crank-up sections do when cranked-down

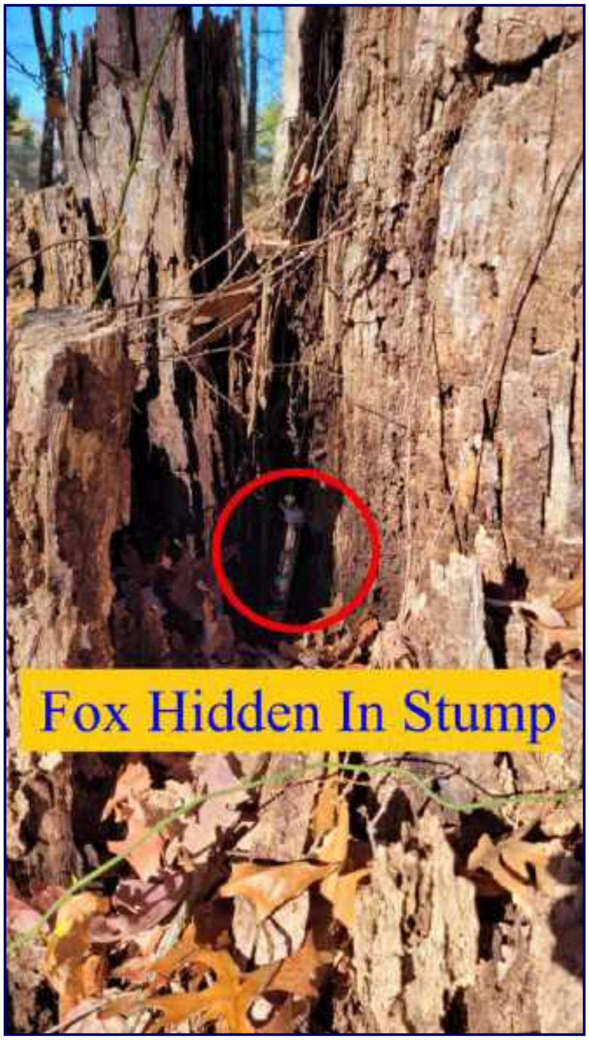
66. Dip. or Inv-V, e.g.

68. Propagation condx indicator

Answers on Page 50

Family Fun Fall Fox Hunt 31

By Jim Wright, N2GXJ



Fox Hidden In Stump

What a great weather day for the family fun fall fox hunt! Following the morning's Tech Saturday Forum session on November 9, 2024, your Club kicked off a hidden transmitter hunt starting from our Clubhouse. **Alex Duboski KB2YEF** was the ***"Fox"*** this time, hiding somewhere in Gloucester County, New Jersey, with a cell phone and the transmitter he would turn on at the designated time.

After a brief introduction by **Jim Wright N2GXJ** in the Clubhouse parking area, 8 different hunt teams consisting of first time and experienced hunters formed up and checked in (so we all knew who to expect at the finish). Then a cell phone call was made and Alex the fox put the transmitter on the air!

With radios tuned to 146.565 MHz, could anyone hear it from where we were starting at our Clubhouse location? Those who had squelch turned on could not hear it. Nor could those with simple "rubber duck" antennas. Those with directional antennas could hear the signal as they moved away from the Clubhouse and started sweeping their antennas back and forth, but they were still not sure from which direction the signal was arriving. Could that be due to reflections? Maybe! That's part of the in-the-field experience! To make sure everyone was on the right track before teams got in their cars, an initial clue was given : ***"Drive out to the highway and turn right. It is not before the water tower"***. After this, teams got in their cars and started out. The hunt for the fox was on!

After getting to the road and turning right, the signal did seem to start getting stronger. A half mile or so on the way towards Mullica Hill the received signal became strong enough to break squelch, and seemed to be strongest when driving past the **Ella Harris Park**. Driving beyond this park, the signal became weaker again. It had to be in there somewhere. The thing about this park is it has entrances on multiple sides. Some drove past the park on the East side and then came back to the park on the East side, parking there. Some went past the park, then came back approaching it from the West side, parking there. To the delight of the fox, teams were entering the park from multiple directions. An on-foot scramble commenced as teams exited their cars, radio gear in hand, hoping they might be first to find the hidden transmitter.

Al Arrison KB2AYU and **Frank Romeo N3PUU** and his crew were first to get to the general area in the park where the signal seemed to be coming from. They figured out at about the same time that the signal seemed to be coming from an old tree stump they had found just off a walking trail within a wooded portion of the park. In tight competition, Al gets credit for being first to the radio, when he saw it first while hand digging through dry leaves that had collected inside the open tree stump. Turns out that clever fox had purposely buried the transmitter in dry leaves inside the tree trunk so that only its nearly invisible thin black antenna wire was sticking out. Nice job Alex!

After finding the fox, they stepped back to watch and smile at the other hunters that soon began arriving in the area. Using a variety of techniques, including "body fade", "tree block", and third-harmonics with their hand-held radios, everyone was eventually able to find that tree trunk, and then with great delight, the radio hidden in it.

Fox Hunt 31 - Continued on page 41

Fox Hunt 31 - Continued from page 40

Great fun! Well done and congratulations everyone, especially first time hunters! You're veterans now!

When the hunt was over, we exchanged hunt stories and posed for a group photo. Afterwards, some of us headed over to **Marino's** to catch a quick bite to eat. What a nice day for a family fun fall fox hunt!

Participants :

- **Al Arrison, KB2AYU (First To Find The Fox - Not In Group Photo)**
- **Jim Beury, KE2DRN**
- **Ron Block, NR2B**
- **Alex Duboski, KB2YEF (The Fox)**
- **Karl Frank, W2KBF**
- **Angela Metzger, KE2DRJ and Craig Metzger**
- **Earl Moore, KC2NCH**
- **Aimée Ortiz, K9RVT**
- **Frank Romeo, N3PUU, Kathy, and Jonathan**
- **Jim Wright, N2GXJ (Organizer & Group Picture Taker - Not In Group Photo)**

(L-R) Craig Metzger, Angela Metzger KE2DRJ, Karl Frank W2KBF, Ron Block NR2B, Alex Duboski KB2YEF (The Fox), Aimée Ortiz K9RVT, Earl Moore KC2NCH, Jim Beury KE2DRN, Jonathan, Kathy, Frank Romeo N3PUU, & Al Arrison KB2AYU

W2MMD Clubhouse Test & Repair Bench Equipment and Supplies
Another FREE Clubhouse Resource Available To All Club Members

A Special Thank You to Chris AD2CS for donating the equipment and organizing these test benches

- YiHua 948 11-in-1 Solder Station
- Universal Screwdriver Set
- PanaVise PCB vise with full tilt and rotate on parts bin base
- 500 Watt Dummy Load
- 100 Watt Dummy Load
- Heathkit HD-1234 6-position Coax Switch with RG-213 jumpers
- Hook-up Wire :
    - 18 AWG stranded
    - 22 AWG solid and stranded
    - 24 AWG solid and stranded
- Bird 4304A Thruline Directional Wattmeter
- CMS BE-01 Battery Eliminator 1A/1.5-15V Power Supply
- 12 AWG Red/Black Dual Stranded ZIP Wire
- Simpson 260 Series 5 Analog Multimeter
- CMS ESR-01 Equivalent Series Resistance Meter
- Elenco DT-100 Diode & Transistor Tester
- TekPower TP50SW 50A/13.8V Power Supply
- Elenco XP-720 12.6VAC/5VDC/1.5-15VDC 3A/1A Power Supply
- RSR Electronix Express RSR-3040 15VAC/5VD/1.5-15VDC 3A/1A Power Supply
- BK Precision 1803D Frequency Counter
- KKmoon MHS-5225 Digital Arbitrary Waveform Signal Generator
- Exact 121 Analog Signal Generator
- Greenlee DM-510A Handheld Digital Multimeter
- HP 34410A Benchtop Digital Multimeter
- BK Precision 1655 Variable isolated AC Supply
- CMS Dim Bulb Current Limiter - 100 Watt
- CMS BDST-01 Signal Tracer
- CMS CRTT-01 Gas-charged Voltage Regulator Tube Tester
- Conar 224 Tube Tester
- GW LCR-814 LCR Meter
- Siglent SDS-1102CML+ Digital Storage Oscilloscope
- DX Engineering Coaxial Cable Gripper and Stripper (RG-8U / RG-213)
- DX Engineering Coaxial Cable Cutter, Trimmer, and Crimper (RG-8U / RG-213)
- DX Engineering RG-8X Die Set for Coaxial Cable Crimper
- Adjustable Wrench Set for Slotted/Recessed Round Nuts
- Speedwox Miniature Box Wrench Sets, Metric and SAE
- 69238 Nut Driver Set, Metric
- 69239 Nut Driver Set, SAE
- Velleman K-8115 Universal Component Tester
- Anderson Powerpole® Connector Assortment
- Anderson Powerpole® Crimping Tool
- Heat Shrink Tube Assortment, cut lengths
- Ring Terminal Assortment
- Alignment Tool Set
- Craftsman Wire Cutter/Crimper
- Craftsman 6-piece Pliers Set
- Laptop PC
- Programming Cable Sets (2)
- Test Lead Set
- Oscilloscope Probe Set

Gloucester County Amateur Radio Club
General Membership Meeting Minutes
Wednesday, November 6, 2024

Meeting opened @ 1900 Hours by President Jon Pearce, WB2MNF with the Pledge of Allegiance to the Flag

Attendance :

- **In-person : 47**
- **Via Zoom : 13**

Visitors :

- **Mike Withers, Williamstown, NJ**
- **Zachary Pedrick, KE2DOU**
- **Aidan Sharpe**
- **Rowen Christianson**

New Members :

- **James Bishop, Williamstown, NJ.**
- **Joseph DiCastelnuovo, KD2RPD, Woodbury, NJ.**
- **Michael Libonati, WA2ACV, Barnegat, NJ.**
- **Ralph Verdi, KC2WVM, Deptford, NJ.**

Announcements :

- GCARC Holiday Dinner at the Mantua Masonic Lodge 12/6/2024

Upcoming Events :

- Tech Saturday 11/9/24 - “Overview of Satellite Operating”
- Fox Hunt, Saturday 11/9/24 - on air.
- VE testing at the Clubhouse 11/14/24 @7PM
- EME Contest 11/16-17/24 at the Clubhouse
- GCARC Board of Director’s meeting air the Clubhouse 11/20/24 @7PM

Member Current Activities :

- **Marc Federici WM2Y** made a 70cm Delta Loop antenna for Meshtastic.
- **Al Arrison KB2AYU** discussed the recent Aurora Borealis and working 2m CW DX.
- **Jim Wright N2GXJ** reported FT8 decodes from Europe on 6m and 10m
- **Sheldon Parker K2MEN** discussed working DX stations on 10m FM.

Business Meeting :

- Minutes of October 2024 business meeting as published in Crosstalk were approved by voice vote of members present.

November 2024 General Membership Meeting Minutes - Continued on page 44

November 2024 General Membership Meeting Minutes - Continued from page 43

Treasurer's Report :

- **2024 Operating Income and Expense**
  - **Income : $22,665.80**
  - **Expense : $20,297.43**
  - **Net : $2,368.37**

Remarks :

- Motion to approve the Treasurer's Report passed by voice vote of members present.

Gloucester County Amateur Radio Foundation Report:

- **Income : $14,044.77**
- **Expense : $12,244.89**
- **Net : $1,799.88**

Clubhouse Report :

- VHF Tower excavation and concrete pour complete. **Jon Pearce WB2MNF** narrated a slide show of the activity. **Al Arrison KB2AYU** provided additional updates on Clubhouse maintenance items.

Technical Committee Report :

- **Jon Pearce WB2MNF** reported on the results of the GCARC 11/2/24 and Woodruff School 11/4 balloon launches.
- He also mentioned the Open GD77 support channel on the Club Discord server.
- EME dish to be picked up next week.
- **Jim Wright N2GXJ** gave a quick intro to Fox Hunting and the upcoming activity at Tech Saturday.

DX & Contests Report :

- **Tony Starr K3TS** provided an overview of contests for November 2024, details published in CrossTalk.

Public Service Report :

- **Bob Keogh KD2NEC** gave comments on preparedness.

Education Committee Report :

- **Chris Prioli AD2CS** discussed an upcoming NanoVNA Class on 12/3 and 12/5/24.

Old Business :

- **Second reading of 2025 Club Officer's Slate**
  - **President : Jonathan Pearce, WB2MNF**
  - **Vice President : Ron Block, NR2B**
  - **Treasurer : John O'Connell, K2QA**
  - **Recording Secretary : John Zaruba Jr, K2ZA**
  - **Corresponding Secretary : Michael Resnick, N2WOQ**
  - **Director : Jeffrey Garth, WB2ZBN**
  - **Director : Frank Romeo, N3PUU**
  - **Trustee : Earl Moore, KC2NCH (nominated from the meeting floor)**

November 2024 General Membership Meeting Minutes - Continued on page 45

November 2024 General Membership Meeting Minutes - Continued from page 44

New Business :

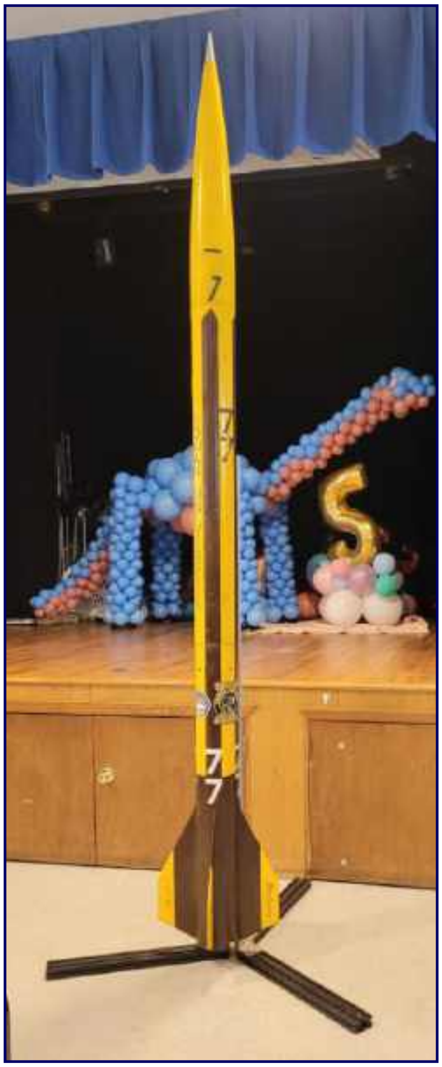
- Motion to renew $2,200 appropriation for VHF room funding for furniture construction passed by voice vote of members present.

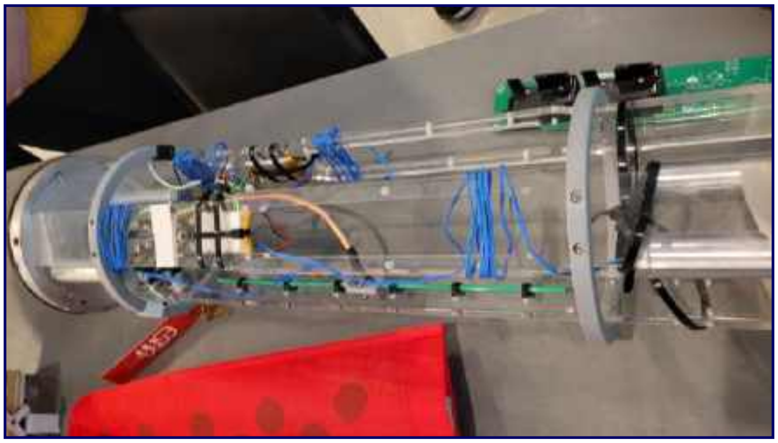
Presentation :

- **Rowan University Rocketry Project Presented By Beth Kraus KE2BPE, Zachary Pedrick KE2DOU, Aidan Sharpe, and Rowen Christianson.**

Meeting adjourned @ 2002 Hours

Respectfully submitted, John Zaruba Jr, K2ZA, Recording Secretary





Electronic Tool Tip #11 - Dual-View Loupe

By Chris Prioli, AD2CS - chris@ad2cs.com - www.ad2cs.com

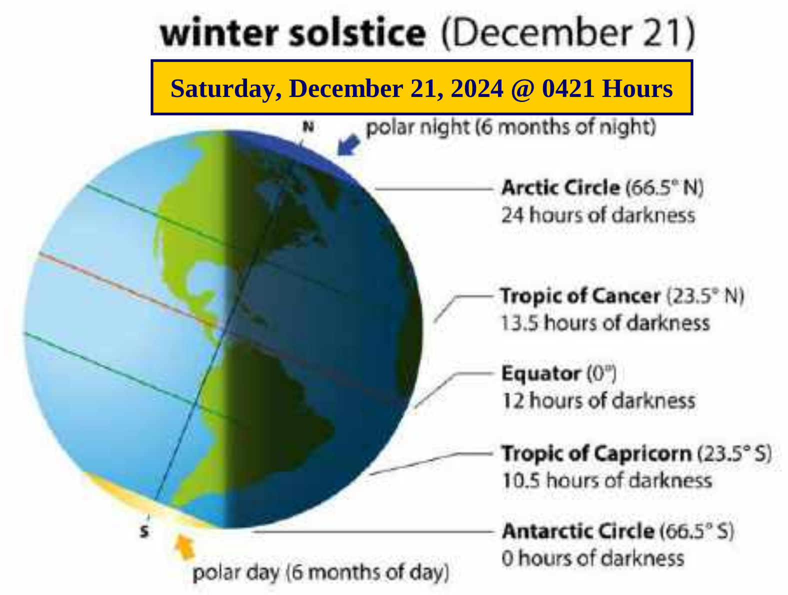
As miniaturized components become more common, and as our exposure to those miniature devices - our need to work with them - becomes greater, we have an increased need to be able to clearly see and identify such components. In addition, as we get older, our ability to see such things unaided decreases. We already looked at one nice aid in Tool Tip #8 - the lighted helmet magnifier. Now we are going to take a look at another handy tool that makes identifying and working with tiny components easier.

The Carson DV-30 Dual-View Loupe is an ideal magnifier for working with these tiny SMT devices. It offers a 3X magnification level in its large fixed lens, but then it offers a 12X look at the target through an adjustable-focus side lens.

The DV-30 is designed so that it can be placed directly down over the target object, as it is open on its underside. In addition, the 12X lens is raised above the lower surface plane of the magnifier, allowing it to be placed over, for example, the edge of a circuit board or some other raised object and then focused on that target.

The magnifier is made of high-impact polycarbonate plastic with good optical properties. I find it to be a useful and reliable aid to my daily work with electronic components of all types. For example, this magnifier makes it much easier to identify the color bands on resistors and inductors, and to read the markings on ceramic capacitors. All things considered, it is an excellent addition to any electronics workbench.

This magnifier is available online from Amazon, at a price of $9.99 (USD) plus shipping if you are not an Amazon Prime member. Of course, the government has to get its share, so tax will also be applied. Point your browser to **https://www.amazon.com/Carson-DualView-Magnifier-Focusing-DV-30/dp/B000VS2680** if you want to investigate this item for yourself.


winter solstice (December 21)
N
polar night (6 months of night)
Arctic Circle (66.5° N)
24 hours of darkness
Tropic of Cancer (23.5° N)
13.5 hours of darkness
Equator (0°)
12 hours of darkness
Tropic of Capricorn (23.5° S)
10.5 hours of darkness
Antarctic Circle (66.5° S)
0 hours of darkness
S
polar day (6 months of day)

Saturday, December 21, 2024 @ 0421 Hours

May the Lord light up your soul...
And bless you with
love and joy...
On Hanukkah
and always !

Wednesday, December 25, 2024

Gloucester County Amateur Radio Club
Board of Directors Meeting Minutes
Wednesday, November 20, 2024

Meeting opened @ 1900 Hours by Vice President Ron Block, NR2B

Attendance :

- President Jon Pearce, WB2MNF :
- **Vice President Ron Block, NR2B : Present**
- **Treasurer John O'Connell, K2QA : ZOOM**
- **Recording Secretary John Zaruba Jr, K2ZA : Present**
- **Corresponding Secretary Mike Resnick, N2WOQ : Present**
- **Director (2022-2024) Jeffrey Garth, WB2ZBN : Present**
- **Director (2022-2024) Frank Romeo, N3PUU : Present**
- **Director (2023-2025) Chris Prioli, AD2CS : Present**
- **Director (2023-2025) James Wright, N2GXJ : Present**
- **Director (2024-2026) Al Arrison, KB2AYU : Present**
- Director (2024-2026) Bill Price, NJ2S :
- Trustee (2021-2024) Carl Wittig, N2CRW :
- Trustee (2022-2025) Charles Lanard, KD2EIB :
- Trustee (2023-2026) Sheldon Parker, K2MEN :
- **Trustee (2024-2027) Len Rust, W2LJR : Present**
- **Member Bruce Canino, KD2LBU : Present**
- **Member Karl Frank, W2KBF : Present**

Motion to approve previous meeting minutes passed by voice vote of Club officers present.

New Member Applications :

- **Robert Ciotti Jr, KC3ZFT, Havertown, PA**
- **Peter B Elias (son), KE2EGL, Newport, NJ**
- **Peter L Elias Jr (father), KE2EGU, Vineland, NJ**
- **Leonard Ford, KE2DPS, Newport, NJ**
- **David Schwechtje Jr, Associate, Westville, NJ**

Treasurer's Report :

- **Income : $24,006.80**
- **Expense : $20,342.12**
- **Net : $3,664.68**

Detailed financial statements are available for member review upon request. Motion to approve treasurer's report passed by voice vote of Club officers present.

November 2024 Board of Directors Meeting Minutes - Continued on page 48

November 2024 Board of Directors Meeting Minutes - Continued from page 47

Clubhouse Report :

- **Al Arrison KB2AYU** reported form lumber removed from first tower base concrete, second tower base will be addressed shortly.
- Discussion of form wood disposal.
- Al ordered structural nuts, bolts, and wire rope for the new towers.
- New EME dish was tested and QSOs were made. Thanks to **Frank Romeo N3PUU** for constructing an interdigital filter to reduce noise in the receive system.
- Electric heater is now on in the bathroom, please keep the door closed.
- Frank requested plastic buckets to help dispose of hardened waste concrete.

Technical Committee :

- **Mike Resnick N2WOQ** reported on Woodruff School balloon launches.
- Skunkworks website is back up on a new server.

GCARC Foundation :

- Received a $2000 donation this month.

Programs and Activities Committee :

- **Bob Famiglio K3RF**, ARRL Atlantic Division Director will speaking at the December GM meeting.
- **Steve McGarry WS2C** will give a presentation on the Reverse Beacon Network in January.
- **Angela Metzger KE2DRJ** will speak on the Woodruff School Balloon Launch Project in February.
- Discussion of the upcoming Holiday Dinner.
- **Jim Wright N2GXJ** reported Fox Hunt 31 was held with great turn out.

Education Committee :

- **Chris Prioli AD2CS** reported on the upcoming NanoVNA class.
- Licensing classes are completed.

Membership :

- Discussion of membership renewals and dues.
- Total membership now stands at **256**.

Old Business :

- **Ron Block NR2B** reported that paperwork for the 2025 hamfest was signed with the 4H.
- 2025 slate of Club officers is finalized with no contested positions.

New Business :

- **John O'Connell K2QA** discussed insurance coverage increase need with the attendant cost. Motion to approve coverage increase approved by voice vote of officers present.
- Discussion of question "Is it reasonable to sell the underutilized Club emergency generator?"
- Discussion of candidates for Volunteer Awards for Holiday Dinner.
- No December "Dinner at the Club House"
- January GM meeting is the 8th, Tech Saturday Forum is the 11th.
- Chris discussed upcoming changes for VE testing in 2025.

November 2024 Board of Directors Meeting Minutes - Continued on page 49

November 2024 Board of Directors Meeting Minutes - Continued from page 48

NETS :

- **2 Meter Net : October 2024 - Tuesday Average : 9.2 Check-ins, Thursday Average : 6 Check-ins**
- **10 Meter Net : Tuesdays and Thursdays at 1930 Hours**
- **40 Meter Net : Mondays and Thursdays at 1930 Hours**

Meeting adjourned @ 2029 Hours

Respectfully Submitted,
John Zaruba Jr, K2ZA
Recording Secretary

Saturday, December 7, 2024

1000 To 1200 Hours

Annual Wreaths Of Remembrance

Gloucester County Veterans Cemetery
240 North Tuckahoe Road, Williamstown, NJ

Gloucester County has without a doubt one of the most beautiful Veterans Cemeteries in the country and one we can all be proud of. Gloucester County veterans and volunteers have come together to raise funds to purchase and lay wreaths on the grave sites of veterans and family members buried at the Veterans Cemetery as a gesture of honor and remembrance. We continue the tradition again this year of honoring our veterans at a special ceremony starting at 10:00 AM on Saturday, December 7, 2024 at the Cemetery in Williamstown followed by performing individual grave ceremonies and the laying of wreaths covering all the grave sites at the Cemetery.

Danish Stuffed Pork
(From Denmark!)

(1) 5-6 lbs loin of pork
(2) Teaspoons Salt
(1) Teaspoon Sugar
¼ Teaspoon Pepper
(3) Cups Sliced, Peeled, Apples
(1) Cup Pitted Dried Prunes
(1) Cup Water

With a sharp knife, partially separate the meat from the ribs of pork loin. Combine salt, sugar, and pepper and sprinkle on all cut surfaces of pork. Stuff opening with the apples and prunes. Tie or skewer loin securely. Stand stuffed loin on ribs ends in shallow roasting pan, Roast for 1 hour at 350°. Add water, cover and continue roasting for 1½ hours or until tender. Serves 8.

Note : Gravy may be made for pan drippings.

Merry Christmas
Rose Ellen Bills, N2RE (WA2FGS) SK
Club President 1980

From The December 1970 CrossTalk

To Be Added To The DX HONOR ROLL,
Please contact Ernest Kraus, KD2EAV
meanddelcanotc@verizon.net

Name/Callsign	DXCC
Bill Grim, W0MHK	352
Dave Strout, W2YC	349
Edward De Fonzo, W2DE	339
Darrell Neron, AB2E	336
Bob Pantazes, W2ARP	290
John Hill, W2HUV	271
Gary Castellini, N2IEC	270
Vinnie Sallustio, N4NYY	270
Sheldon Parker, K2MEN	260
Jim Wright, N2GXJ	251
Ken Denson, WB2P	248
Tony Starr, K3TS	242
Dennis Sandole, K2SE	231
Eric Morris, N2BRJ	157
Howard Marder, WA2IBZ	156
Art Strong, KA0WS	154
Steve Farney, W2SEF	147
Phil Nunzio, WA3RGY	144
Rich Subers, W2RHS	140
Bart Kleczynski, AC2PT	124
Marc Federici, WM2Y	117
Ben Johnson, NE2R (WB2GUK)	116
Chuck Capasso, WB2PGE	104
Harry Strahlendorf Jr, W3DNQ	103
Jim Clark, KA2OSV	87
Lee Marino, N2LAM	71
Updated As Of 11/25/2024	

M	I	L	E	■	F	L	U	X	■	S	P	A	R	K
I	C	O	M	■	R	E	T	E	■	P	U	R	E	E
N	O	A	A	■	E	I	C	O	■	E	L	E	G	Y
I	N	D	I	C	E	S	■	N	N	E	■	N	E	E
■	■	■	L	O	P	■	D	E	A	D	B	A	N	D
O	M	B	■	M	O	R	E	■	T	W	O	■	■	■
R	A	N	G	■	R	O	T	S	■	A	F	A	M	P
C	Y	C	L	E	T	W	E	N	T	Y	F	O	U	R
A	O	S	I	X	■	S	C	O	W	■	O	N	T	O
■	■	■	N	C	S	■	T	W	O	S	■	E	E	S
S	P	O	T	L	E	S	S	■	W	W	A	■	■	■
U	H	F	■	U	N	I	■	P	A	R	A	G	O	N
N	O	M	A	D	■	X	M	I	T	■	N	A	M	E
I	N	A	N	E	■	D	U	C	T	■	D	I	N	S
T	E	N	T	S	■	B	F	O	S	■	K	N	I	T

Crossword Puzzle Answers From Page 39

Hmm...It's Saturday and you want to know if someone is at the Clubhouse? Why not call and find out! What!!!

W2MMD Clubhouse : (856) 244-6914

(Please, no free solar panel calls!)

December Birthdays

Congratulations To Our Members Who Are Celebrating A Birthday This Month

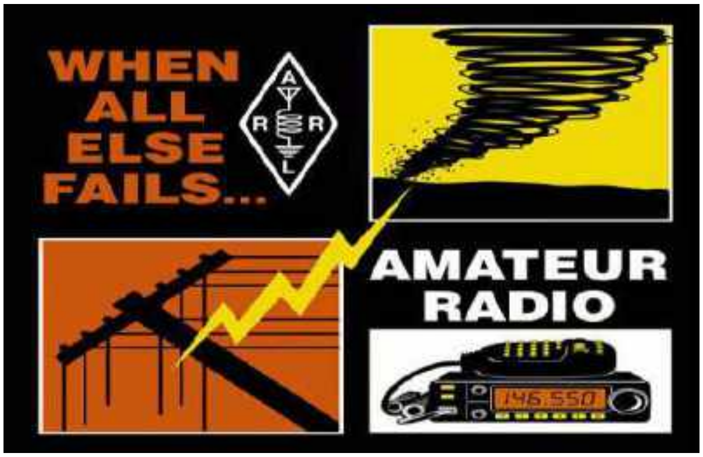
James Beury, KE2DRN
Richard Bobb, W2NSA
Robert Brown, KD2YUG
Anthony Cerami, N2OAC
Karl Frank, W2KBF
Thomas Gorman, KE2ES (President 2012, 2013)
William Grim Jr, W0MHK
Josiah Jarvis, KE2BRD
James Kinkade, KC2JAX
Bart Kleczynski, AC2PT
Phillip Lizzi, AD2HU
James McDonald, WB2AOL
Gary Mirkin, WA3SVW
Eric Morris, N2BRJ
Richard Nicholas IV, KC3WIR
Sheldon Parker, K2MEN
Paul Pasternak Jr, N3FTO
John Price III, KD2QYC
William Robinson, KD2ANM
Robert Saunders Jr, KC2UYS
David Sheppard, W2PAX
William Sheppard Sr, WA2KMS
Jason Watkins, KD2VVJ

In Memoriam : December Birthdays

August Bendler, W2GUS
Joseph Bowen Jr, KD2AE
Howard Carter, WA2OVQ
Frank Ciancaglini, K2JLY
Daniel Coursey, WA2ZTY
Frank DiPalma, N2ESF
Vincent Gadzinski, WB2VNS
Arthur Goldman, K3WIN (Charter Member)
William Helmetag, WA2VQG
Ronald Hermann, KC3FRE
John Hirst, WA2FMP (Charter Member)
Barry Hovey, N2FSG
Urb LeJeune, W1UL
Frank Malinowski Sr, KE2NY
John Marshall, KB2RGR
William O'Donnell Sr, NT2N

James Peck, W2LV
(President 1961, Charter Member)

Donald Seibert, N2MOO
John White, WA2MEM (President 1974)
Norman Williams, W2SPN
Raymond Wrzeszczynski, N2SXO



Santa Net 2024 On The Air!

Every year on **3.916 MHz**, we give good little boys and girls a chance to talk to Santa Claus at the North Pole! It is indeed a magical experience to experience kids talking with Santa through the magic of Amateur Radio! The Santa Net is on the air every night, **November 29, 2024 through December 24, 2024 at 2000 Hours Eastern**. To participate in the **Santa Net**, just have your kids prepared to tell Santa their top 2-3 gift wishes.

For more information, go to : http://www.cqsanta.com

North American QSO Party, CW 2024
August 4, 2024

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : Single Op Assisted LP
QTH : SNJ
Operating Time (hrs) : 5
Location : USA

Summary :

Band	QSOs	Mults
80 :	87	45
40 :	147	45
20 :	91	48
15 :	45	25
10 :	18	7
Total :	388	170

Total Score : 65,960

83

Club : Frankford Radio Club
Team : FRC Team Efficiency
Comments :
Rig : K3
Antennas :
10m,15m,20m Force 12 C3S tribander on 50ft AB-577 military mast
40m Dipole @ 80ft
80m Dipole @ 95ft
160m Inverted L (inoperable at moment, needs repair).

Operating time : 5hours
Thanks to all for the QSOs! SFI was 247, but was not hearing/working as many as I thought I would. Bands became noisy the times I was on. Thunderstorms rolled through in the evening so QRT'd early. Got back on at 0300UTC, nice run on 80m, then it was like the plug got pulled at midnight. Two hours left but many used up their 10hours already, so I QRT'd. Hunted mults and found many.

73 and CU in WAE CW next weekend!
Darrell AB2E

Contest : NAQPCW

Band	QSOs	Pts	Sec	Mt2	Pt/Q
3.5	87	87	43	2	1.0
7	147	147	43	2	1.0
14	91	91	44	4	1.0
21	45	45	21	4	1.0
28	18	18	6	1	1.0
Total	388	388	157	13	1.0

Score : 65,960
1 Mult = 2.3 Q's

North American QSO Party, SSB 2024
August 18, 2024

Call : KD2SPJ
Operator (s) : KD2SPJ
Station : KD2SPJ

Class : Single Op LP
QTH : NJ
Operating Time (hrs) : 2
Location : USA

Summary :

Band	QSOs	Mults
40 :	3	3
20 :	19	15
Total :	22	18

Total Score : 396

89

Club : Gloucester County ARC

Comments :
My first NAQP. I ran S&P only. Good contest for a beginner.

North American QSO Party, SSB 2024
August 18, 2024

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : Single Op Assisted LP
QTH : Pennsylvania
Operating Time (hrs) : 6
Location : USA

Summary :

Band	QSOs	Mults
80 :	5	5
40 :	85	35
20 :	100	29
15 :	35	15
Total :	225	84

Total Score : 20,025

88

Club : Frankford Radio Club
Team : FRC Artillery
Comments :
A part time effort using temporary antennas (low 40m dipole and Hustler 5BTV) here at the new WPA QTH. Hopefully my tower will be up before the next NAQP in January. Thanks to all for Q's, and see you next time. 73 for now.

de K3TS

North American QSO Party, CW 2024

August 4, 2024

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : Single Op Assisted LP
QTH : WPA
Operating Time (hrs) : 8:30
Location : USA

Summary :

Band	QSOs	Mults
80 :	60	37
40 :	135	50
20 :	115	36
15 :	42	25
10 :	8	5
Total :	360	153

Total Score : 55,080

84

Club : Frankford Radio Club
Team : FRC Team Proficiency
Comments :

First contest from my new QTH in Bedford County PA. Sole antenna used was a Hustler 5BTV on a 20 foot mast, with FOUR PAIRS of tuned radials. Radio, my trusty Kenwood TS-590sg. No towers up yet, but hopefully soon. Location, a rural hilltop, elevation about 1600 feet, with a really low noise floor on all the bands. I am amazed to be able to copy signals which don't move the S-meter. Certainly a change from my previous QTH. Thanks to all for the Q's, and hope to get on in a couple of weeks for the SSB version, if I can get my mic and foot switch hooked up! 73 for now. de K3TS in WPA

Pennsylvania QSO Party 2024

October 12, 2024

Call : WB2PJH
Operator (s) : WB2PJH
Station : WB2PJH

Class : SOCW HP
QTH :
Operating Time (hrs) : 3
Location : Out of State/Province

Summary :

Band	CW Qs	Ph Qs
40 :	56	
Total :	56	0

Mults : 36
Total Score : 4,232

106

Club : Frankford Radio Club

WAE DX Contest, CW 2024

August 10, 2024

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : Single Op HP
QTH : SNJ
Operating Time (hrs) : 25.5
Location : USA

Summary :

Band	QSOs	QTCs	Mults
80 :	37	15	80
40 :	133	137	105
20 :	320	330	88
15 :	312	318	80
10 :	3	0	6
Total :	1,605	800	359

Total Score : 575,477

85

Club : Frankford Radio Club

Comments :

Rig : FTDX-9000D/OM Power 2000A+ amp
Antennas :
80m dipole @ 90ft
40m dipole @ 85ft
10/15/20m Force 12 C3S tribander @ 52feet on AB-577 Military mast

Operating time 25.5 hours SFI 300+ all weekend! However, still 10m was horrible for me. Finally got 3 EU stations Sun afternoon, very weak. Great fun sending back the QTC's for the second half of the points. Lifetime high for this contest from the home station. Great to work so many EU friends in this contest! 73 Darrell AB2E

Contest : WAECW

Band	Q/QTC	QSOs	Pts	Mlt	Pt/Q
3.5	QSO	37	37	80	1.0
3.5	SQTC	15	15	0	1.0
7	QSO	133	132	105	1.0
7	SQTC	137	137	0	1.0
14	QSO	320	319	88	1.0
14	SQTC	330	330	0	1.0
21	QSO	312	312	80	1.0
21	SQTC	318	318	0	1.0
28	QSO	3	3	6	1.0
Total	All	1605	1603	359	1.0

Score : 575,477
1 Mult = 4.5 Q's

WAE DX Contest, CW 2024
August 10, 2024

Call : K3TS
Operator (s) : K3TS
Station : K3TS

Class : Single Op LP
QTH : WPA
Operating Time (hrs) : 3
Location : USA

Summary :

Band	QSOs	QTCs	Mults
80 :	5	0	20
40 :	20	0	45
20 :	25	0	30
Total :	50	0	95

Total Score : 4,750

Club : Frankford Radio Club **86**

Comments :
This was basically an experiment to see if I could reliably work European DX with my temporary vertical and low power from my new WPA QTH (I can); and to see if I could figure out this QTC thing (I couldn't). It may be just as well, because I don't think they could have copied all of that data from my weak puny signal. Maybe when I get the tower up and the amplifier back online I will try it again, but I still don't think I will like this contest any better. Until then, 73 for now.

de K3TS

Ohio QSO Party 2024
August 24, 2024

Call : WB2PJH
Operator (s) : WB2PJH
Station : WB2PJH

Class : Single Op HP
QTH :
Operating Time (hrs) : 1
Location : Out of State/Province

Summary :

Band	CW Qs	Ph Qs
80 :	10	
40 :	14	

Total : 24 0 CW Mults : 17 Ph Mults : 0
Total Score : 816

Club : Frankford Radio Club **91**

North American QSO Party, SSB 2024
August 18, 2024

Call : AB2E
Operator (s) : AB2E
Station : AB2E

Class : Single Op Assisted LP
QTH : SNJ
Operating Time (hrs) : 3.5
Location : USA

Summary :

Band	QSOs	Mults
80 :	23	22
40 :	41	34
20 :	34	22
15 :	26	18
10 :	8	8
Total :	132	104

Total Score : 13,728

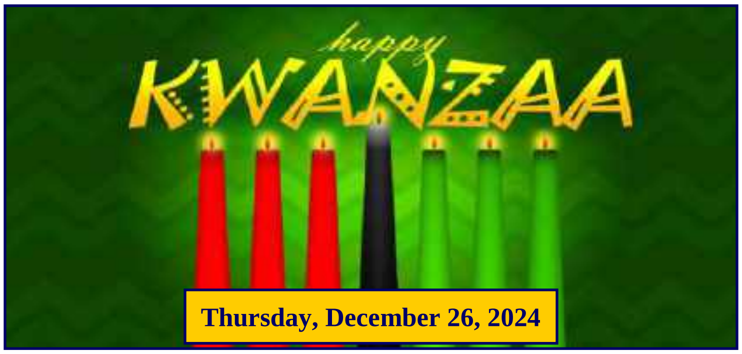
Club : Frankford Radio Club **87**
Team : FRC NCOs
Comments :
Rig : Elecraft K4D
Antennas :
75m dipole @ 90ft
40m dipole @ 85ft
10m,15m,20 C3S tribander @ 52ft

Operating time 3.5 hours Hi all, Thanks for the QSOs. Condx seemed very poor given the decent SFI numbers. Not able to operate as much as I wanted, but did what I could with family stuff in between.

73 Darrell AB2E
Contest : NAQPSSB

Band	QSOs	Pts	Sec	Mt2	Pt/Q
3.5	23	23	22	0	1.0
7	41	41	33	1	1.0
14	34	34	20	2	1.0
21	26	26	16	2	1.0
28	8	8	6	2	1.0
Total	132	132	97	7	1.0

Score : 13,728
1 Mult = 1.3 Q's



Thursday, December 26, 2024

Announced DX Operations
www.ng3k.com/Misc/adxo.html
From The Shack of Bill Feidt, NG3K : www.ng3k.com

2024 Nov25	2024 Dec06	**Tonga**	A35GC	LoTW	LZ1GC 20240816	By LZ1GC LZ5QZ fm IOTA OC-049; 160-6m, focus on 160 80 60m; CW SSB FT4 FT8 RTTY; 3 stations; QSL via E51SGC OQRS or LZ1GC (B/d)
2024 Nov25	2024 Dec09	**Central African Rep**	TL8ES	LoTW	DXW.Net 20241116	By IV3FSG fm Bangui (JJ94gi)l 160-6m; SSB CW FT8 FT4 RTTY; QSL via IK2DUW
2024 Nov27	2024 Dec10	**Singapore**	**9V1CF** NEW	OE3OGC	TDDX 20241118	By 40-10M; SSB, perhaps FT8; spare time operation
2024 Nov27	2024 Dec08	**Sierra Leone**	9L5A	LoTW	OPDX 20241102	By F2DX HB9GWJ F1ULQ + large team; 160-6m; CW SSB; QSL via Club Log OQRS
2024 Nov29	2024 Dec13	**Marshall Is**	V73WE	Club Log OQRS	TDDX 20241105	By SP9FIH fm OC-029 (RJ57pd); 40-10m; CW SSB FT8; verticals, quad, yagi
2024 Nov30	2024 Dec02	**Fiji**	**3D2NB**	LoTW	DXW.Net 20240920	By W7YAQ K7AR; 160-6m; QSL via W7YAQ; QRV for CQWW DX CW
2024 Nov30	2024 Dec13	**St Martin**	TO9W	LoTW	TDDX 20240506	By K9EL K9NU W9MR W9AP; HF; CW SSB FT8 FT4 RTTY; QSL via W9ILY (B/d), direct w/ 2.5 USD
CQ Worldwide DX Contest, CW (Nov 23-24, 2024) Check here for pericontest activity too.						
December						
2024 Dec01	2024 Dec10	**Cuba**	**T46W** NEW	LoTW	DXW.Net 20241121	By CO6XDX CO6XX CO6VV CO6SDY CO6RK CO6OU CM6EZ CL6AX fm Cayo Santa Maria (IOTA NA-204, FL02lp); 160-6m; POTA activity fm CU0292 and CU0298; QSL via CO6QK
2024 Dec02	2024 Dec07	**India**	AU2K	Club Log OQRS	VE3LYC 20241020	By VE3LYC VU2RS VU3WEW VU3DXA fm Kanika I (IOTA AS-179); 40-10m; CW SSB FT8; full QSL details at: https://au2k.weebly.com/log--qsl.html
2024 Dec08	2024 Dec18	**Br Virgin Is**	VP2VMM	LoTW	TDDX 20240726	By K2KW AG9A KD4D K5PI; QRV for ARRL 10m Contest; QSL via KU9C
2024 Dec13	2024 Dec19	**Bangladesh**	S21DX	LoTW	OPDX 20240818	By 18 S21 ops fm Dhal Char I (IOTA AS-140); 160-10m; SSB RTTY FT8 (f/h); 4 stations; QSL via EB7DX
2024 Dec20	2024 Dec31	**French Guiana**	TO0J	LoTW	OZ0J 20240331	By OZ0J; 80-10m; CW SSB, but mainly FT8 (mainly f/h); QSL via Club Log OQRS
2024 Dec26	2025 Jan04	**Dominica**	**J75K**	LoTW	DXW.Net 20240804	By FM5WD IV3JVJ IK3ZAQ fm IOTA NA-101; 160-6m; SSB CW FT8; QSL via IV3JVJ
2024 Dec30	2025 Jan03	**Mariana Is**	KH0	LoTW	TDDX 20240722	By AJ6VJ as KH0/AJ6VJ fm San Roque; 40 20 17 15 12 10m; CW SSB FT8; 50w; vertical; QSL via Club Log OQRS

Also for your convenience, there is a direct link to NG3K on our website. Click on the NG3K DX Page.

December 2024 Contest Calendar - WA7BNM Contest Calendar : www.contestcalendar.com

December 2024		
+	K1USN Slow Speed Test	0000Z-0100Z, Dec 2
+	ICWC Medium Speed Test	1300Z-1400Z, Dec 2
+	OK1WC Memorial	1630Z-1729Z, Dec 2
+	ICWC Medium Speed Test	1900Z-2000Z, Dec 2
+	ARS Spartan Sprint	0100Z-0300Z, Dec 3
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 3
+	ICWC Medium Speed Test	0300Z-0400Z, Dec 3
+	QRP Fox Hunt	0200Z-0330Z, Dec 4
+	Phone Weekly Test	0230Z-0300Z, Dec 4
+	A1Club AWT	1200Z-1300Z, Dec 4
+	CWops Test	1300Z-1400Z, Dec 4
+	Mini-Test 40	1700Z-1759Z, Dec 4
+	VHF-UHF FT8 Activity Contest	1700Z-2100Z, Dec 4
+	Mini-Test 80	1800Z-1859Z, Dec 4
+	CWops Test	1900Z-2000Z, Dec 4
+	Walk for the Bacon QRP Contest	0000Z-0100Z, Dec 5 and 0200Z-0300Z, Dec 6
+	QRP ARCI Topband Sprint	0000Z-0300Z, Dec 5
+	CWops Test	0300Z-0400Z, Dec 5
+	CWops Test	0700Z-0800Z, Dec 5
+	NRAU 10m Activity Contest	1800Z-1900Z, Dec 5 (CW) and 1900Z-2000Z, Dec 5 (SSB) and 2000Z-2100Z, Dec 5 (FM) and 2100Z-2200Z, Dec 5 (Dig)
+	SKCC Sprint Europe	2000Z-2200Z, Dec 5
+	NCCC FT4 Sprint	0100Z-0130Z, Dec 6
+	Weekly RTTY Test	0145Z-0215Z, Dec 6
+	QRP Fox Hunt	0200Z-0330Z, Dec 6
+	NCCC Sprint	0230Z-0300Z, Dec 6
+	K1USN Slow Speed Test	2000Z-2100Z, Dec 6
+	ARRL 160-Meter Contest	2200Z, Dec 6 to 1600Z, Dec 8
+	Kalbar Contest	0000Z, Dec 7 to 2359Z, Dec 8
+	Wake-Up! QRP Sprint	0600Z-0629Z, Dec 7 and 0630Z-0659Z, Dec 7 and 0700Z-0729Z, Dec 7 and 0730Z-0800Z, Dec 7
+	PRO CW Contest	1200Z, Dec 7 to 1159Z, Dec 8
+	INORC Contest	1400Z, Dec 7 to 1359Z, Dec 8
+	FT Challenge	1800Z, Dec 7 to 2359Z, Dec 8
+	QRP ARCI Holiday Spirits Sprint	2000Z-2300Z, Dec 8
+	K1USN Slow Speed Test	0000Z-0100Z, Dec 9
+	4 States QRP Group Second Sunday Sprint	0100Z-0300Z, Dec 9
+	ICWC Medium Speed Test	1300Z-1400Z, Dec 9
+	OK1WC Memorial	1630Z-1729Z, Dec 9
+	ICWC Medium Speed Test	1900Z-2000Z, Dec 9
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 10
+	ICWC Medium Speed Test	0300Z-0400Z, Dec 10
+	NAQCC CW Sprint	0130Z-0330Z, Dec 11
+	QRP Fox Hunt	0200Z-0330Z, Dec 11
+	Phone Weekly Test	0230Z-0300Z, Dec 11
+	A1Club AWT	1200Z-1300Z, Dec 11
+	CWops Test	1300Z-1400Z, Dec 11
+	Mini-Test 40	1700Z-1759Z, Dec 11
+	VHF-UHF FT8 Activity Contest	1700Z-2100Z, Dec 11
+	Mini-Test 80	1800Z-1859Z, Dec 11
+	CWops Test	1900Z-2000Z, Dec 11
+	CWops Test	0300Z-0400Z, Dec 12
+	CWops Test	0700Z-0800Z, Dec 12
+	NCCC FT4 Sprint	0100Z-0130Z, Dec 13
+	Weekly RTTY Test	0145Z-0215Z, Dec 13
+	QRP Fox Hunt	0200Z-0330Z, Dec 13
+	NCCC Sprint	0230Z-0300Z, Dec 13
+	K1USN Slow Speed Test	2000Z-2100Z, Dec 13
+	ARRL 10-Meter Contest	0000Z, Dec 14 to 2400Z, Dec 15
+	PODXS 070 Club Triple Play Low Band Sprint	0000Z, Dec 14 to 2359Z, Dec 16
+	TRC Digi Contest	0600Z, Dec 14 to 1800Z, Dec 15
+	SKCC Weekend Sprintathon	1200Z, Dec 14 to 2400Z, Dec 15
+	ARI 40/80 Contest	1300Z, Dec 14 to 1300Z, Dec 15
+	International Naval Contest	1600Z, Dec 14 to 1559Z, Dec 15

December 2024 Contest Calendar - Continued on page 57

December 2024 Contest Calendar - Continued from page 56

+	Run for the Bacon QRP Contest	2300Z, Dec 15 to 0100Z, Dec 16
+	K1USN Slow Speed Test	0000Z-0100Z, Dec 16
+	ICWC Medium Speed Test	1300Z-1400Z, Dec 16
+	OK1WC Memorial	1630Z-1729Z, Dec 16
+	ICWC Medium Speed Test	1900Z-2000Z, Dec 16
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 17
+	ICWC Medium Speed Test	0300Z-0400Z, Dec 17
+	NAQCC CW Sprint	0130Z-0330Z, Dec 18
+	QRP Fox Hunt	0200Z-0330Z, Dec 18
+	Phone Weekly Test	0230Z-0300Z, Dec 18
+	A1Club AWT	1200Z-1300Z, Dec 18
+	CWops Test	1300Z-1400Z, Dec 18
+	Mini-Test 40	1700Z-1759Z, Dec 18
+	VHF-UHF FT8 Activity Contest	1700Z-2100Z, Dec 18
+	Mini-Test 80	1800Z-1859Z, Dec 18
+	CWops Test	1900Z-2000Z, Dec 18
+	Walk for the Bacon QRP Contest	0000Z-0100Z, Dec 19 and 0200Z-0300Z, Dec 20
+	CWops Test	0300Z-0400Z, Dec 19
+	CWops Test	0700Z-0800Z, Dec 19
+	NTC QSO Party	1900Z-2000Z, Dec 19
+	NCCC FT4 Sprint	0100Z-0130Z, Dec 20
+	Weekly RTTY Test	0145Z-0215Z, Dec 20
+	QRP Fox Hunt	0200Z-0330Z, Dec 20
+	NCCC Sprint	0230Z-0300Z, Dec 20
+	AGB-Party Contest	1600Z-1700Z, Dec 20
+	K1USN Slow Speed Test	2000Z-2100Z, Dec 20
+	OK DX RTTY Contest	0000Z-2400Z, Dec 21
+	Feld Hell Sprint	0000Z-2359Z, Dec 21
+	Croatian DX Contest	1400Z, Dec 21 to 1400Z, Dec 22
+	ARRL Rookie Roundup, CW	1800Z-2359Z, Dec 22
+	K1USN Slow Speed Test	0000Z-0100Z, Dec 23
+	ICWC Medium Speed Test	1300Z-1400Z, Dec 23
+	OK1WC Memorial	1630Z-1729Z, Dec 23
+	ICWC Medium Speed Test	1900Z-2000Z, Dec 23
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 24
+	ICWC Medium Speed Test	0300Z-0400Z, Dec 24
+	SKCC Sprint	0000Z-0200Z, Dec 25
+	QRP Fox Hunt	0200Z-0330Z, Dec 25
+	Phone Weekly Test	0230Z-0300Z, Dec 25
+	A1Club AWT	1200Z-1300Z, Dec 25
+	CWops Test	1300Z-1400Z, Dec 25
+	Mini-Test 40	1700Z-1759Z, Dec 25
+	Mini-Test 80	1800Z-1859Z, Dec 25
+	CWops Test	1900Z-2000Z, Dec 25
+	CWops Test	0300Z-0400Z, Dec 26
+	CWops Test	0700Z-0800Z, Dec 26
+	DARC Christmas Contest	0830Z-1059Z, Dec 26
+	NCCC FT4 Sprint	0100Z-0130Z, Dec 27
+	Weekly RTTY Test	0145Z-0215Z, Dec 27
+	QRP Fox Hunt	0200Z-0330Z, Dec 27
+	NCCC Sprint	0230Z-0300Z, Dec 27
+	K1USN Slow Speed Test	2000Z-2100Z, Dec 27
+	YB Banggai DX Contest	0000Z-2359Z, Dec 28
+	RAC Winter Contest	0000Z-2359Z, Dec 28
+	Original QRP Contest	1500Z, Dec 28 to 1500Z, Dec 29
+	Stew Perry Topband Challenge	1500Z, Dec 28 to 1500Z, Dec 29
+	RAEM Contest	0000Z-1159Z, Dec 29
+	K1USN Slow Speed Test	0000Z-0100Z, Dec 30
+	YOTA Contest	1000Z-2159Z, Dec 30
+	ICWC Medium Speed Test	1300Z-1400Z, Dec 30
+	QCX Challenge	1300Z-1400Z, Dec 30
+	OK1WC Memorial	1630Z-1729Z, Dec 30
+	ICWC Medium Speed Test	1900Z-2000Z, Dec 30
+	QCX Challenge	1900Z-2000Z, Dec 30
+	Worldwide Sideband Activity Contest	0100Z-0159Z, Dec 31
+	QCX Challenge	0300Z-0400Z, Dec 31
+	ICWC Medium Speed Test	0300Z-0400Z, Dec 31
+	Bogor Old and New Contest	0900Z-2359Z, Dec 31

2024 Club Committees

Standing Committees	Committee Chairs
Budget	**John O’Connell, K2QA**
Constitution & By-Laws	**Ron Block, NR2B**
Education	**Chris Prioli, AD2CS**
Field Day	**Tony Starr, K3TS**
Hamfest	**Sheldon Parker, K2MEN and Bill Price, NJ2S**
Health, Welfare, & Silent Keys	**Bill Price, NJ2S**
Hospitality	**Jeff Garth, WB2ZBN**
Membership	**Chris Prioli, AD2CS**
Membership Badges	**Chris Prioli, AD2CS**
Nominations	**Jon Pearce, WB2MNF**
Publicity	**Mike Resnick, N2WOQ**
Repeaters	***Open Chair***
W2MMD Clubhouse Site	**Al Arrison, KB2AYU**

Activity Committees	Committee Chairs
Awards & Certificates	**GCARC Board of Directors**
Club Photographer	**Phil Nunzio, WA3RGY**
Club Publications & Historian	**Jeff Garth, WB2ZBN**
Contests	**Tony Starr, K3TS**
GCARC Foxhunts	**Jim Wright, N2GXJ**
GC-ARES Emergency Coordinator	**Bob Keogh, KD2NEC**
Holiday Dinner Party	**Frank Romeo, N3PUU & Kathy Romeo**
License Testing/VEC Liaison	**Gary Reed, N2QEE**
Membership Roster Database	**Jeff Garth, WB2ZBN**
Programs : General Membership Meetings	**Ron Block, NR2B**
Radio Nets	***Open Chair***
Technical (Tech Saturday, TechNets)	**Jon Pearce, WB2MNF**
W2MMD License Trustee	**Darrell Neron, AB2E**
W2MMD Special Event Station	**Mark Gottlieb, KK2L**

GCARC <*at*> Mailman <*dot*> QTH <*dot*> Net e-mail reflector guidelines

1. **No attachments** (e.g. pictures, files) are allowed on the reflector.
2. If you have Club-related pictures that you would like to share, you can send them to the webmaster, he will put them on the website and will send out a general e-mail to all the members.
3. Otherwise, the pictures will have to be sent to the members’ addresses.
4. URLs/Hyperlinks are acceptable on the reflector.
5. Do not send any messages with e-mail addresses in the **BCC** (**Blind Carbon Copy**) field. The message will be rejected. Use only the **To:** or **CC:** fields.
6. Members are subscribed to the reflector using the member's e-mail address from the roster database. You must use that address when sending an e-mail via the reflector.
7. If you use another address on the reflector, the message will get rejected or "*bounced*", because the reflector does not recognize that address. Whenever a message sent to reflector is rejected or *"bounced"* for various reasons, the administrator has to log-in to the Mailman.QTH website and approve the message.

The W2MMD Repeaters

2 Meter Repeater
Output : 147.180 MHz
Input : 147.780 MHz
Offset : +600 kHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)
EchoLink : W2MMD-R

70 cm Repeater
Output : 442.100 MHz
Input : 447.100 MHz
Offset : +5 MHz - PL : 131.8 Hz
(Conventional FM plus C4FM Capability)

The above repeaters are both
located in Pitman, NJ
GPS : 39.728481°, -75.131088°

1.25 Meter Repeater
Output : 224.660 MHz
Input : 223.060 MHz
Offset : -1.6 MHz - PL : 131.8 Hz
Location : Sewell, NJ
GPS : 39.746738°, -75.077094°

SKYWARN™ Net
Sunday @ 1930 : 147.180 MHz Repeater

Gloucester County ARES Net
Sunday @ 2000 : 147.180 MHz Repeater

GCARC TechNet ZOOM Forum
Available Every Monday @ 1930 Hours
Join ZOOM Meeting Link :
https://bit.ly/3K8bWwj

Tuesday AfterNoon 2M Net @ 1200 Hours

Tuesday & Thursday 10 Meter Net @ 1930 Hours
28.465 MHz or 28.475 MHz

Monday & Thursday Night 40M Net
1930 Hours
7.225 MHz (+/- 5 or 10 kHz)

Thursday 2M Net @ 2000 Hours

Meeting Calendar

General Membership Meeting
Wednesday, December 4, 2024
1900 Hours
Pfeiffer Community Center
Simulcast Live on ZOOM
Meeting ID : 943 0211 9674
Passcode : 843147
Join ZOOM Meeting Link :
https://bit.ly/44P4HCU

Board of Directors Meeting
Wednesday, December 18, 2024
1900 Hours
W2MMD Clubhouse

"There's More To Ham Radio Than
You Can Possibly Do!"
- K3TS

"The big thing about being in a club and
being a "Ham" is to help each other
when there is a need "
- W2SEF

*** Badges ***

Need a new or replacement badge
Contact "*The Badge Man*"

Chris Prioli, AD2CS
chris@ad2cs.com

Question Pool Answers : E1F01:B; E1F02:C; E1F03:D; E1F04:A; E1F05:D; E1F06:A; E1F07:D; E1F08:A; E1F09:C; E1F10:B; E1F11:D

December 1964 Crosstalk

Yes Fellows, There is a Santa Claus By One Who Really Knows

Twas the night before Christmas as I look back,
And there I sat with a light in the shack.

The stockings were hung by the chimney with care,
Across the band I looked for some DX to snare.

The children were nestled all snug in their beds
While visions of rare ones danced through my head.

Up and down the band I tuned once more,
I was so tired it was becoming a chore.

When I heard it I could hardly believe my ears,
A CQ being tapped out by eight tiny reindeers!

I turned on the rig and grabbed for the key,
And in two seconds he was answering me!

“Hello young fellow, the handle’s Saint Nick”
When I heard this I thought I’d been hit by a brick!

“ I’m on a journey to near and far,
The rig is mounted in this thing I use for a car.”

“It’s powered by cheer and good wishes for all.
And by the way, thanks for giving us a call.”

“Back to you” he said with a click,
But I still couldn’t believe it was really Saint Nick.

The years have gone by and I’ve grown old,
Time after time this story I’ve told.

To believe it I know is really hard,
Until I show you his QSL card!

Each non-believer examines it well,
And leaves the shack really feeling swell!

For there on the wall for all to see,
Is proof of Santa’s que-so with me!

And on the back of his card he wrote with red and green pens,
MERRY CHRISTMAS TO ALL OF MY FELLOW HAM FRIENDS.